ADDIS CONTITNETAL INSTITUTE OF PUBLIC HEALTH WITH UNIVERSITY OF GONDOR

ASSESEEMENT OF FACTORS AFFECTING THE PULMONARY TUBERCULOSIS CASE DETECTION

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ADDIS CONTITNETAL INSTITUTE OF PUBLIC HEALTH WITH UNIVERSITY OF GONDOR

ASSESSMENT OF FACTORS AFFECTING THE PULMONARY TUBERCULOSIS CASE DETECTION IN SOUTH ACHEFER AND JABITENAN WOREDAS OF WEST GOJJAM ZONE, AMHARA REGION

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Dedication

This thesis is dedicated to my beloved mother W/o Mintewab Beyene.

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6. LISTS OF ABBREVIATIONS

AFB: …….Acid Fast Bacilli

ANRSHB……...Amhara National Regional State Health Beuro

CBTC……...Community Based TB Care

CDR: ……...Case Detection Rate

CSA: …….Center for Statistical Agency

DOTS: ……..Direct Observed Treatment for Short course

EFY: …….....Ethiopian Fiscal Year

EHNRI…….Ethiopian Health & Nutrition Research Institute

ETB: ……..…Ethiopian Birr

FMoH: …….Federal Ministry of Health

HBC…….High Burden Counties

HC: ……..…..Health Center

HEWs: ……..Health Extension Workers

HIV: ……...…Human Immuno Deficiency Virus

HMIS: ……...….Health Management Information System

HP: …….…..Health Post

HWs: ……..Health Workers

MDR: …….....Multi Drug Resistance

NTP: ……...….National Tuberculosis Control Program

OPD……..…..Out Patient Department

PPS……Proportional to Population Size

PLWHAS……...….Persons living with HIV/AIDS

PTB+: …….....Smear Positive Pulmonary Tuberculosis

SD: ……...Standard Deviation

SPSS: ……..…Statistical Package for Social Science

TB: ……...…Tuberculosis

TBL: ……..Tuberculosis and Leprosy

TSR……Treatment Success Rate

TLCP: ……Tuberculosis and Leprosy Control Program

WHO: ……..…World Health Organization

ZHD: ……..Zonal Health Department

7. ABSTRACT

Background: Detecting infectious TB cases and effective treatment of them is the most important TB control strategy. However, according to Federal Ministry of Health (FMOH) report on smear positive pulmonary TB cases in 2001 EFY, the national and Amhara region and case detection rate for smear positive pulmonary tuberculosis is 34% and 24% respectively which is below half of the WHO annual estimates i.e. 70% and therefore poses a question to investigate the reasons and come up with possible findings.

Objectives: This study aims to assess factors affecting the pulmonary TB case Detection.

Methodology: A community based cross sectional study was conducted using a quantitative method of data collection in selected communities (kebeles) of woredas selected through multistage stratified sampling technique in South Achefer and Jabitenan and A facility based qualitative study was conducted using phenomenological study design in four selected HCs in four woredas of West Gojjam zone of Amhara region from June to December 2010.

Result. Among the 1256(97.8%) of respondents who ever heard about PTB, 974(77.5%) mentioned the correct routes of transmission. However, 823(65.5%) did not have good knowledge about PTB. Respondents with higher educational level had good knowledge than illiterates with AOR=4.771, 95% CI= (3.254, 6.997) and P<0.001. . Despite having good knowledge in the correct transmission of TB, half of the respondents had negative attitude towards TB. Respondents with high level of education had positive attitude than illiterates with AOR=4.510, 95% CI= (2.803, 7.256) and P< 0.001 Among 143 sick respondents with prolonged cough, 56(39.4%) had positive treatment seeking behavior. Treatment was sought more by females than male respondents. Half of health workers in the facilities did not employ two AFB test positive results as adequate diagnostic criteria for smear positive PTB diagnosis. Moreover, there was 7(18.4%) false negativity rate which is over ten times higher than the tolerable or acceptable false negative rate of NTBLCP.

Conclusion and recommendation: There is a wide knowledge gap among the community about PTB. Moreover, there is even low treatment seeking practices of sick patients and about three quarter of the prolonged coughers had either negative treatment seeking practice or they did not seek treatment at all. There are undetected TB suspects in the community who need to be identified and referred. About half of the health workers were unable to make diagnosis of PTB+ based on the available two AFP positive results unless additional investigation result is presented as well as a high false negativity rate and implicates problems related to staining and smearing which leads to wrong diagnosis of PTB which results in wrong diagnosis of PTB. All the above findings reflect the pulmonary TB case detection was affected by the poor treatment seeking practice of the community, the diagnostics capacity of HWs and laboratory technicians AFB test performance and poor active detection and referals of TB suspects. Both a combined active and passive TB case detection strategies or approach should be applied effectively through an effective community TB care initiative and quality facility based AFB test detection and diagnosis should be effected.

8. INTRODUCTION

In many low and middle income countries, TB has been neglected as a public health issue for many years although remained the major causes of death from a single infectious agent among adults in developing countries. TB is a major public health problem throughout the world and peculiarly disease of poverty affecting mostly young adults in their most productive years. The vast majority of TB deaths are in the developing world. Recently published estimates suggest that more than 2 billion people, equal to one-third of the world's population, are infected with TB bacilli, the microbes that cause TB. One in ten people (10%) infected with TB bacilli will become sick with active TB in their lifetime. [1]

In 2009, there were an estimated 9.4 million incident cases (equivalent to 137 cases per 100 000 population) of TB globally. This is an increase from the 9.3 million TB cases estimated to have occurred in 2007, as slow reductions in incidence rates per capital continue to be outweighed by increases in population. Most of the estimated number of cases in 2009 occurred in Asia (55%) and Africa (30%) with small proportions of cases in the Eastern Mediterranean Region (7%), the European Region (5%) and the Region of the Americas (3%).There were an estimated 14 million prevalent cases of TB in 2009, equivalent to 200 cases per 100 000 population [2]

Ethiopia ranks 7th among the 22 high-TB burden countries in the world and the 3rd in Africa. According to the 2009 World Health Organization estimate the incidence of TB of all forms and smear positive TB is **378** and **163** per 100,000 populations respectively. The prevalence and mortality of TB of all forms is estimated to be **579** and **92** per 100,000 populations respectively. For the last decade (1992-2001EC), Ethiopia registered a total of 372,427 new smear positive TB cases and 1,166,863 new all forms of TB cases. Though these numbers of cases are registered, the case detection rates (CDR) was very low, within the range of 31-38%, compared to the global target of at least 70%. The treatment success rate (TSR) of smear positive TB patients had increased steadily and up to 84% during same period; only 1% short of the global target [3]

In 1994, WHO launched the directly observed Treatment, short course (DOTS) strategy, which is the brand name of the internationally recommended for TB control. The DOTS strategy ensures that infectious TB patients are identified and cured using standardized drug combination. One of the five key components of DOTS strategy is case detection by sputum smear microscopy among symptomatic patients self reporting to health facilities [4]

Reducing the burden of global TB disease is a part of broader developmental frameworks such as the Millennium Development Goals (MDG). The MDG clearly state that prevalence and mortality rate of TB should be addressed with a goal towards increase in case detection rate (CDR) and treatment success rate within DOTS (Direct Observed Treatment, Short course) strategy. [5]

Generally, TB case detection is classified as active and passive case detection. The DOTS strategy relies on self presentation of patients with chronic cough ($\geq$ 2 or more weeks) at the health facility and on sputum smear examination for acid- fast bacilli which is known as passive TB case detection. Where as an active case detection refers to case finding strategy through which community health workers visited contacts in the home of the index case subject, identified symptomatic individuals, collected sputum specimens on two consecutive mornings, and transported the specimens to the regional mycobacterium laboratory for acid fast staining and smear microscopy. [5, 6]

In developing countries, emphasis is laid on passive case finding and diagnosing infectious cases of tuberculosis mainly through direct microscopy of sputum specimens obtained from persons who present themselves to the health services. This, however, is known to be influenced by a set of factors such as patient motivation, degree of diagnostic capacity and suspicion of health workers and quality of laboratory facility [5]. On the other hand, because of its cost, active case finding is not a practicable option and it often leads to poorer treatment compliance, as patients diagnosed via passive case findings are more motivated to come to the health care provider .However, both a combined active and passive TB case finding is essential for an effective tuberculosis control programme. Delay or totally failure in the case

detection may worsen the disease, increase the risk of death and enhance tuberculosis transmission in the community. [5]

Detecting infectious TB cases and effective treatment of them is the most important TB control strategy. However, according to the 2001 report from Ethiopia Federal Ministry of Health (FMOH), the national case detection rate for smear positive pulmonary tuberculosis is 34% which is below half of the WHO annual estimates which is 70%. In Amhara region, smear positive pulmonary TB case detection rate is 24% which is even lower than the national figure and far lower than the WHO annual estimates.

The challenges were shortage of health workers, low diagnostic skills of health workers, low health service coverage, poor health service utilization rate, high disease burden, and socioeconomic barriers. Despite the challenges, TB prevention and control programme demands uninterrupted supplies, regular integrated supportive supervision, and effective adherence to DOTS. The low health service coverage compromises TB control programme. This gives opportunity for disease transmission and increases disease burden in the community. On the other side, improving health seeking behavior of the community, diagnostic skills of health workers and laboratory units and quality data recording and reporting system are the vital pillars for case detection rate improvement

Therefore, TB control programme should find alternative ways that increase access to effective diagnostic and treatment service to TB patients. This will increase TB case detection and treatment. It may also decrease patient delays and lead to early initiation of treatment. This will decrease the risk of TB transmission in the community.

This study aims at assessing the knowledge, attitude and health seeking behavior of the community, diagnostic capacity of health workers and quality of AFB test and investigates the reasons and come up with possible findings that show gaps call for interventions.

9. LITERATURE REVIEW

9.1 The Global Picture of TB

9.1.1 Incidence and Prevalence

Recently published estimates suggest that more than 2 billion people, equal to one-third of the world's population, are infected with TB bacilli, the microbes that cause TB. One in ten people (10%) infected with TB bacilli will become sick with active TB in their lifetime. [1]

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9.2 The National Burden of Tuberculosis

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In 2008/09 (2001 EC), a total of 145,602 (97.8%) new cases were notified out of which 44,396 (30%) were pulmonary smear-positive cases. TB smear positive CDR and TSR for this year was 34% and 84%, respectively. In order to Ethiopia achieve the MDG goal for CDR by 2015, a rigorous effort should be made in the remaining few years.

As compared to the WHO estimate, Ethiopia's smear positive TB CDR is very low and in a steady trend for the last ten years. The maximum CDR achieved was in 2004, 38% and minimum in 2000, 31%. [3]

Trend of ten years performance on TB control activities

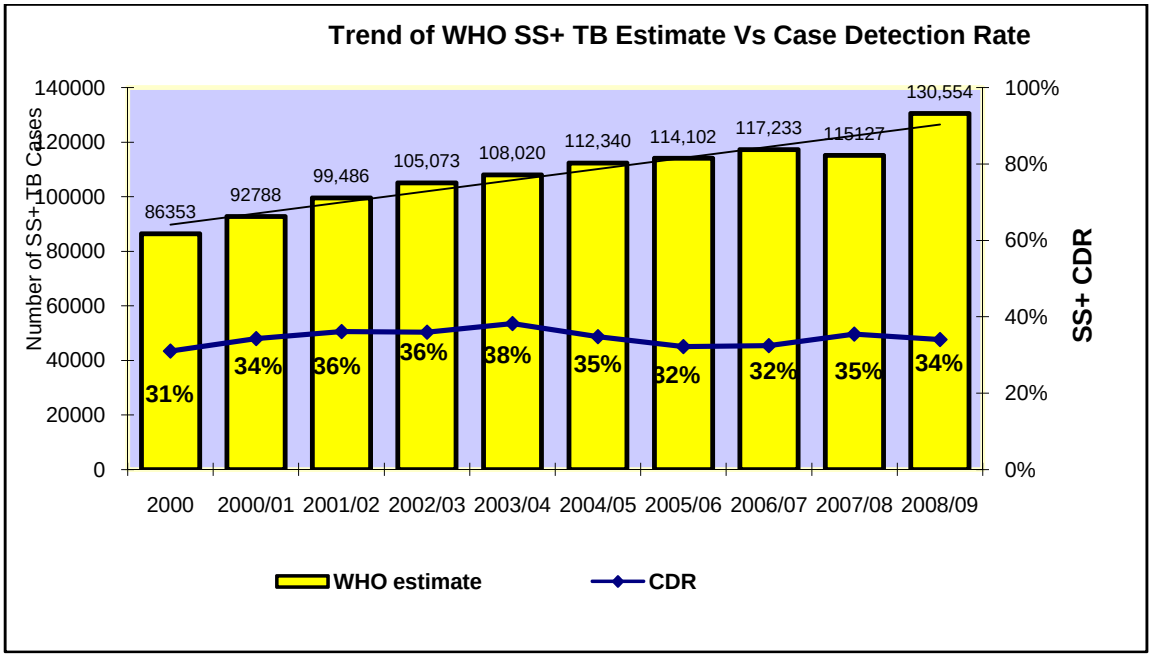


Figure 1: Notified cases of TB in the last ten years, 1992-2001 E.C. (TBL Data, TLCT, FMOH) [3]

The above graph shows that the national smear positive pulmonary TB case detection rate for last ten consecutive years which is between 30% -38% which is far lower than the expected estimated annual detection rate targeted by WHO(70%). This has implied that an equivalent or larger number of undetected pulmonary TB cases remain in the community and become sources of infection.

According to the MOH hospital statistics data, tuberculosis is the leading cause of morbidity, the third cause of hospital admission (after deliveries and malaria), and the second cause of death in Ethiopia, after malaria. Tuberculosis is an obstacle to socio-economic development; 75% of people affected by TB are within the economically productive age group of 15-54 years. [3, 4]

Global TB strategy

The Stop TB Strategy is the approach recommended by WHO to reduce the burden of TB in line with global targets set for 2015. It was launched by WHO in 2006 with a global vision of a TB-free world and a Goal to dramatically reduce the global burden of TB by 2015 in line with the Millennium Development Goals.[1]

DOTS strategy

In 1994, WHO launched the Directly Observed Treatment, Short-course (DOTS) Strategy which is the brand name of the internationally recommended strategy for TB control The DOTS strategy ensures that infectious TB patients are identified and cured using standardized drug combination. Government commitment to ensure sustained and comprehensive TB control activities, increase human and financial resources and make TB control a nationwide priority [4]

DOTS program in Ethiopia

Global efforts to control TB were strengthened in 1991, when a World Health Assembly resolution recognized TB as a major global public health problem. Two targets for TB control were established as part of this resolution – 70% of case detection rate and 85% of cure rate by the year 2000, which means that at least the 70% of new smear positive TB cases should be detected and at least the 85% of these cases should be treated. These two targets were embedded within the DOTS strategy launched by World Health Organization in 1994, and subsequently endorsed by the WHO STOP TB Strategy in 2006. Ethiopia, implementing the DOTS and STOP TB Strategy, adopted the global targets for TB control. [4]

To overcome this public health problem, Ethiopia established TB centers and sanatoriums in three major urban areas in the country in the early 1960's. In 1976, the central office of the National Tuberculosis Control Program (NTCP) was inaugurated to scale up and strengthen TB control activities nation-wide.[3]

The standardized and well-organized TB programme, incorporating directly observed treatment, short course (DOTS) commenced in 1992 in a few pilot areas of the country. The DOTS strategy has been subsequently scaled up in the country and implemented at all levels. At present, 97% of the existing public hospitals and health centers are implementing the DOTS strategy. [3]

The existing Case finding strategies:

1. Identification of suspects among patients who present on their own initiative at health facilities or in the community;
2. Proper diagnosis through examination of sputum of patients with symptoms suggestive of TB;
3. Promotion of awareness in the community, amongst the medical staff and the Community workers regarding respiratory symptoms, notably persistent cough for 2 weeks or more, and the need to obtain and examine 3 sputum specimens for the diagnosis of TB.
4. Contact screening: examination of household contacts of smear-positive TB patients; irrespective of the duration of cough;
5. Intensified TB screening in high-risk groups.[3]

9.3 TB Case detection

World Health Organization launched the Directly Observed Treatment, Short course (DOTS) strategy. One of the five key components of DOTS strategy is case detection by sputum smear microscopy among symptomatic patients self reporting to health facilities. Detection of the most infectious cases of tuberculosis – sputum smear-

positive pulmonary cases –is an essential component of the control of tuberculosis; it's case finding. [4]

9.3.1Global picture of Case detection

The targets of reaching a 70% case detection rate and an 85% treatment success rate by 2000 were set in 1991 by the World Health Assembly, with the target year subsequently reset to 2005. The best estimate of the case detection rate of new smear positive cases in 2008 was 62% (range 56–68%) which is 9% less than the milestone of 71% that was set in the Global Plan. [1]

9.3.2Tuberculosis Case Finding in 2001EC (2008/09) for Ethiopia

In the year 2001EC, TB control and prevention unit of the FMOH planned to achieve 70% CDR and 85% TSR. To address the planned targets, many strategies was designed and implemented. These strategies include expansion of TB-DOT sites, PPM-DOTS, TB/HIV collaboration sites and pilot community based care initiatives. However the CDR and TSR achieved for this year remained low as to the previous years. Among a total of 130,554 expected smear positive TB cases in the year 2008 (according to WHO estimate), only one-third (44,396) of the cases are detected by the end of June 2009. This indicates that a total of 86,158 cases were missed, of which 69,615 (81%) of the cases are expected to be in the three big regions of the country; Amhara, Oromia and SNNPR. [3]

Generally, TB case detection is classified as active and passive case detection. An active case detection refers to case finding strategy through which community health workers visited contacts in the home of the index case subject, identified symptomatic individuals, collected sputum specimens on two consecutive mornings, and transported the specimens to the regional mycobacterial laboratory for acid fast staining and smear microscopy. Contacts that are tested positive by sputum microscopy then were referred to the local health center for treatment Whereas passive case detection is case finding approach through self presentation of patients with chronic cough of 2 or more weeks duration at the health facility and on sputum smear examination for acid- fast bacilli.[3,6]

The case detection rate has been a much-used indicator of progress in TB control for more than a decade. The considerable attention given to the case detection rate was in line with the two principal global targets (case detection and treatment success rates) set for TB control during the period 1991 to 2005. [1]

In developing countries, emphasis is laid on passive case finding and diagnosing infectious cases of tuberculosis mainly through direct microscopy of sputum specimens obtained from persons who present themselves to the health services. This, however, is known to be influenced by a set of factors such as patient motivation, degree of diagnostic suspicion by health workers and quality of laboratory facility [4]. On the other hand, because of its cost or the requirements in significant amount of resource investment for active TB case detection , active case finding is not a practicable option and it often leads to poorer treatment compliance, as patients diagnosed via passive case findings are more motivated to come to the health care provider [5].

In 2008/09, the smear positive pulmonary TB case detection rate of Ethiopia was 34% which is lower than half the WHO annual estimates (70%) or even lower than Kenya.. WHO estimates that Kenya attained 70% case detection rate and 85% treatment success rate in 2007. [2, 3]

Kenya has achieved on the targets set by WHO through implementing community TB initiatives and expansion of the DOTS program to wards hard to reach populations like nomads, pastoralists and those living in remotest places as well as TB controls in prisons.[7]

Community TB care initiatives in Kenya was implemented through giving training to community health workers on TB diagnosis and treatment , organizing diagnostic centers and establishing and strengthening the reporting system at community level. This initiative was expanded to as much as possible to the remotes areas and hard to reach places. Moreover, the prison community has been giving meticulous attention in the war against TB through aggressive TB campaign in prison launched by the

Kenyan ministry of health including renovating and upgrading prison health facilities to diagnostic and treatment centers. [7]

Basic factors such as access to TB care playing critical roles in determining the case detection of pulmonary TB are

1. The health seeking behavior of the community possibly affected by different factors such as knowledge about TB , socio cultural and economic reasons , stigma associated with development and experiences of TB, income status , living conditions ,gender, physical accessibility of the services and presence of alternative treatment options preferred by the community during the illnesses and others factors might have compromised the motivation of patients to seek and receive the TB treatment services. [8].

   As expressed interms of economic barriers, TB is more common in poor people, during the health care seeking path way, a proportion of patients, particularly from the poor and vulnerable groups may drop out completely at any of the stages. Even in under free DOTS program, the expenditure on accommodation, transportation, subsistence becomes an economic burden. The economic issues incubate barriers from the socioeconomic disparities and gender in equity in access to health care. Stigma attached to TB leads to fear of unemployment, marriage and social exclusion which blocks the timely health seeking for TB and delays for treatment and diagnosis where females' education and illiteracy are low, the consequence of stigma may be particularly marked for the delay in seeking TB care in women. Lack of knowledge and recognition of TB control may result in lack of attention for the disease, lack of importance of early case detection and treatment of TB. The first contact of TB help at a traditional healer could influence patient access to TB diagnosis due to healers' limited knowledge. [14] Many studies use qualitative instruments (e.g., in-depth interviews and focus groups) to gauge the degree to which TB is seen as stigmatized in a community. Considerable geographic variability exists in the perceived prevalence of TB stigma, with 27% to 80% of at-risk individuals reporting that TB is stigmatized in their communities. TB stigma is felt more strongly in certain subpopulations,

including women, refugees, individuals from rural areas, and people with lower education levels.[21]In a community based survey conducted in Northern Ethiopia, Tigray region on knowledge, attitude and practice of the community about tuberculosis and their treatment choice to their treatment supervisor shows. Of the respondents who had awareness about PTB disease (n=717), 52.4% had knowledge, their preferred TB-treatment supervisors were: CHWs (60%), health professionals (16.5%), family members (12.7%) and self-supervision by patients (7.8%) [9].

In a community based survey conducted in Northern Ethiopia, Amhara region, more male sick respondents sought treatment at medical facilities than females and about half of respondents did not seek treatment at all due to reasons like symptoms were not serious and economic constraints etc. In a similar study conducted in China more females than males prefers to seek treatment at available treatment options. [9, 13]

2. In addition, the skills of health professionals, who are supposed to make high degree of suspicion while a patient with clinical signs and symptoms suggestive of pulmonary TB, sending for AFB investigation and do appropriate diagnosis on the basis of clinical and laboratory as well as other (x-ray) findings following the national TB guide line, has played vital role in detecting pulmonary TB cases. [8]

   Patients care seeking behavior and access to TB care may also be affected by the motivation, quality and capacity of TB care services. A study from India showed that poor people often excluded from TB control program because of problems case administration and treatment compliance .TB diagnosis could also be missed due to the unqualified care staffs, the rigid implementation of DOTS and the poor attitudes of health care provider tend to alienate patients. [14] Research in many parts of the world has shown that improved communication between health care providers and TB patients and their families contributes to better therapeutic outcomes, and this can also be applied to case detection. It has become clear that problems in case detection and case-holding are not solved by a clinical approach alone, but there is a need for community participation to support the efforts of health care workers. As result, inefficient case-finding owing to poor diagnostic

health workers knowledge is an important obstacle to successful control of TB. Patients who are involved in several different health care encounters may account for delayed or ineffective case-finding [34].In studies conducted on the knowledge and practices of medical practioner on TB in private and public sectors in Kenya and Pakistan shows a wide knowledge gap and majority of them were not using sputum order for PTB diagnosis. Private health personnels had lower knowledge than public sector medical personnels in other studies. [25, 32, 33]

3. Case finding through sputum microscopy is one of the five elements of the directly observed therapy, short course (DOTS) strategy- the WHO strategy for the management of tuberculosis (TB). Thus, TB control requires a functional laboratory set-up with quality diagnostic services and a trained diagnostician and a microscopist. However, the performance of such laboratories depends on continuous monitoring and quality improvement mechanisms put in place. The principal objective of external quality assessment (EQA) is to standardize sputum microscopy for the detection of infectious TB cases across the peripheral diagnostic centers and to validate the reported acid-fast bacilli (AFB) microscopy results from these centers. The National Tuberculosis and Leprosy Control Programme (TLCP) manual for laboratory technicians recommends the rechecking of a sample of routine slides as a method of ensuring the quality of diagnosis and classification of TB patients within the health services [29]

In study conducted on the quality of laboratory service in Ethiopia, SNNP region, considering patient management, the finding of a 97% agreement between the peripheral and final readings is encouraging. Nevertheless, the 3.2% false-positive reading is larger than the critical cut-off point of 2% set by the NTLCP. The proportion of false negatives is below the national threshold for remedial action (3.2% vs. 5%). [29]. In Other studies in Argentina, the *Smear quality identified was* the survey period, 65.3% of sputum smears were qualified as ‘good.’ The proportion of ‘good’ smears in slides from PRLs was 61.1%, while in those from peripheral laboratories it was 66.2%. *Staining quality* During the survey period, 97.3% of the slides were qualified as ‘good’ staining, although in 16.2% small defects in a few

microscopic fields, such as insufficient decoloration or presence of fuchsin crystals, were observed. In the PRLs the proportion of correctly stained smears was 99.5%, while in the peripheral laboratories it was 96.7% concerning the r*eading quality t*he global agreement in reading results among all supervising and supervised laboratories was 98%.. The proportion of false-negative results (1.2%) can be considered acceptable, as it is below the expected value of 1.5%. The proportion of false-positive results (7.8%) is higher than both the expected value of 4.1%. [20].The AFB test results provided to the OPD physicians determined the diagnosis of the patients and the quality of AFB testing plays a critical role in effective case detection and treatment.

4. Contact screening [4] Contact investigation for cases of active pulmonary TB is standard practice in developed countries. Through this process, household and other close contacts of infectious case subjects are identified and tested for TB infection and disease. Several recent studies conducted in high burden areas have shown that active case finding among household contacts yields substantially more TB cases than passive case detection.[11]

5. Intensified TB screening in high-risk groups.[4]

Therefore, both a combined active and passive TB case finding is essential for an effective tuberculosis control program. With an organized effort in coordinating Patients 'alertness to tuberculosis symptoms combined with health workers' readiness's to diagnose the disease and ensuring accessibility of services to the community are important factors to control the spread of the infection in a community [11].

Therefore Detecting infectious TB cases and effective treatment of them is the most important TB control strategy. However, according to Federal Ministry of Health (FMOH) report on smear positive pulmonary TB cases in 2001 EFY, the national case detection rate for smear positive pulmonary tuberculosis is 34% which is below half of the WHO annual estimates (70%). In Amhara region, smear positive

pulmonary TB case detection rate is 24% which is even lower than the national figure and far lower than the WHO annual estimates.

The trend on the national case detection rates of smear positive pulmonary tuberculosis in the last ten consecutive years as shown in fig.1 reveals almost no marked improvement and poses a question to investigate the reasons.

This research is going to assess whether there is any gap in these identified major pillars clearly explained as important elements of DOTS strategy that enable to hit the targets set in global TB plan.

10. OBJECTIVE

10.1 General objective

- To assess factors affecting the pulmonary TB case Detection in West Gojam zone, Amhara region from June to December 2010.

10.2 Specific Objectives

I. To explore the knowledge of health workers and HEWs about TB and the practices of laboratory technicians on the detection of AFB.

II. To assess the knowledge and attitude of the community about/ towards TB

III. To assess the health seeking behavior (practice) of TB suspects.

11. METHODOLOGY

11.1 STUDY SETTING

The study was conducted in two Woredas of West Gojjam administrative zone, which is one of the eleven zones of Amhara national regional state. According to the 2008 Ethiopian census (CSA), the total population of the zone is 2,240,202 and an average household size 4.3.The 2002 nine month report of the West Gojjam ZHD, revealed that the zone has 100 private clinics (1 higher clinic, 15 middle level clinic, 84 lower clinics), 2 hospitals (1 district government and 1 private hospital), 78 functional HCs, 1 small diagnostic laboratory. The potential health service coverage by public health facilities only is 84.4 % and when it includes the private facilities, it is 115%. The zone has 100% geographic DOTS coverage by the public sector, with 26% case detection and 85 % treatment success rate.

11.2 STUDY DESIGN

A community based cross sectional study design and a facility based phenomenologic qualitative study design was used to assess factors affecting the pulmonary TB case detection from June to December 2010.

11.3 SOURCE POPULATION

Health professionals (HWs at OPD or TB unit, laboratory technicians working in HCs with both TB diagnostic and treatment centers and HEWs working in the HPs under the catchments of the HCs in four study woredas and House hold members in two woredas of west Gojjam zone were the source population.

11.4 STUDY POPULATION

House hold members of age 18 years or more in ten selected kebeles in two randomly selected woredas and health workers at OPD, laboratory technicians, health extension workers and slides with positive and negative AFB had constituted the study population.

Inclusion criteria

- HWs working at adult OPDs or TB unit and in the laboratory (Lab. Technicians) who are working in the health centers having both treatment and AFB laboratory services and Health extension workers who were working at health posts for at least one year were included in this study.

- Consented household members 18 years or older of age

Exclusion criteria

- HCs with no laboratory facilities, private facilities and HWs working in private facilities

- House hold members of age bellow 18 years, Confirmed TB cases, those who are already identified as TB cases and are on anti-TB treatment at the moment of the study.

11.5 Sample size determination

1. The size of / number of household residents need to be determined. The required sample size of one of the study populations was determined using the formula for single population proportion.

$$n = \frac{Z(\alpha/2)2 * p(1-p).}{d2}$$

2. The following assumptions were considered: - Where "n" is the required sample size, ”Z" is a standard score corresponding to 95% confidence level; “P” the proportion of the community having knowledge about TB which is 52.4% for knowledge , proportion of community having belief in modern treatment of TB for cure which is 15% for attitude , proportion of the community made preference to TB treatment supervisors by health professionals or at health facility level which is 16.5% for practice based on the study conducted in north Ethiopia , Tigray region on knowledge , attitude and treatment preferences of the community “d ”" is the margin

of error taken as 4 % with design effect of 2 and 10% allowance for non-responses were taken. To calculate the sample size (n),

- While P is assumed to be 52.4% for knowledge,

$$N = \frac{(1.96)2*(.524)*(0.476)}{(0.04)2}$$

$$N = 1318$$

- While P is assumed to be 15 % for attitude

$$N = \frac{(1.96)2*(0.15)(0.85)}{(0.04)2}$$

$$N = 612$$

- While P is assumed to be 16.5 % for practice (health seeking behavior)

$$N = \frac{(1.96)2*(0.165)*(0.835)}{(0.04)2}$$

$$N = 728$$

When the calculated sample size for knowledge, attitude and practices/treatment seeking behavior is compared, the relatively largest sample size of 1318 house hold members were taken for this study. Therefore the minimum required sample size was 1318.

Taking in to consideration the limitation of the resources like time and money as well as human resource, 15% of the total kebeles including urban and rural ones in each Woreda had been included in this study. Therefore, four kebeles from S. Achefer and six kebeles from Jabitenan Woredas were taken. The size of the sample population in each Woreda allocated proportional to the population.

Table 1: Shows the # of actual and sample kebeles in the study Woredas by urban-rural residence July 2010

S. No	Name of Woredas	# of kebeles by urban – rural residence					
		Urban		Rural		Total	
		Actual	Sample	Actual	Sample	Actual	Sample
1	Jabitena	4	1	37	5	41	6
2	S. Achefer	2	1	18	3	20	4
	Total	12	4	55	9	61	10

Source: for the actual urban and rural kebeles data respective of their Woreda HOs

Table 2: Shows the size of actual and sample study population of study Woredas by urban and rural residence July 2010

S. N	Name of the Woredas	Actual Population size and # of HHs of study Urban and rural kebeles) in each study Woreda			# of sample HHs
		Kebeles	Popn	# of HHs	
1	S. Achefer	Urban K (Durbette 02)	6,339	1,474	128
		Rural K11(Abichekil Zuria)	9,671	2,249	195
		Rural K12 (Afuri Keltafa)	11,196	2,604	226
		Rural K13(Care Gurach)	9,874	2,296	200
	Total		37,080	8,623	749
2	Jabitenan	Urban K (Jiga)	9358	2176	189
		Rural K21(Geray)	5004	1164	101
		Rural K22(Abasem)	4108	955	83
		Rural K23(Mebish)	1886	439	38
		Rural K24(Jiga yelimdar)	4202	977	85
		Rural K25 (Mircha)	3638	846	73
3	Total		28,196	6,557	569

Source: for the urban and rural population data is their respective Woreda HOs

Seven hundred forty nine (749) and five hundred sixty nine (569) sample households were allocated in four kebeles of south Achefer and six kebeles of Jabitenan woredas respectively including both urban and rural kebeles. The number of sample households in each study kebeles was also determined by proportional to population size (PPS). The number of households in each kebele is computed by dividing the kebele total population by 4.3 which is the average number of residents per a household for Amhara region.

3. Laboratory technicians in the HCs were observed for each smearing procedure. In this case, the number of observations made is assumed to be performed based on the assumption that the case detection rate will give us the number of patients currently visiting the health centers during the data collection period .This is computed by

   = [Tot. Popn served by HCs * 168/100,000]* CDR of the zone]/12*4HCs*3 sputums samples per patient.

   If the result obtained is divided by two will give us possible number of suspected TB patients since the data collection/observation will be made for not more than one week.

   = {[4 HCs*25,000Popn*168/100,000 Popn* 0.26] /12}/2*3 sputum samples/pt=24 observations

I. 168 PTB+ cases are estimated to be detected from 100,000 popn annually.

II. The case detection rate of the west Gojjam zone will be taken as multiplying factor for calculation

III. Each HC assumed to provide health service for 25,000 people.Therefore, the minimum number of observations were twenty four.

HWs and HEWs were arranged for in depth interview and this was conducted by taking two Health workers working either at adult OPD in each HC and one HEW per HP under the catchments of each HC for every Woreda. A minimum of twelve in depth interviews for HWs and HEWs were made by the principal investigator until saturation is going to be reached

11.6 SAMPLING PROCEDURE

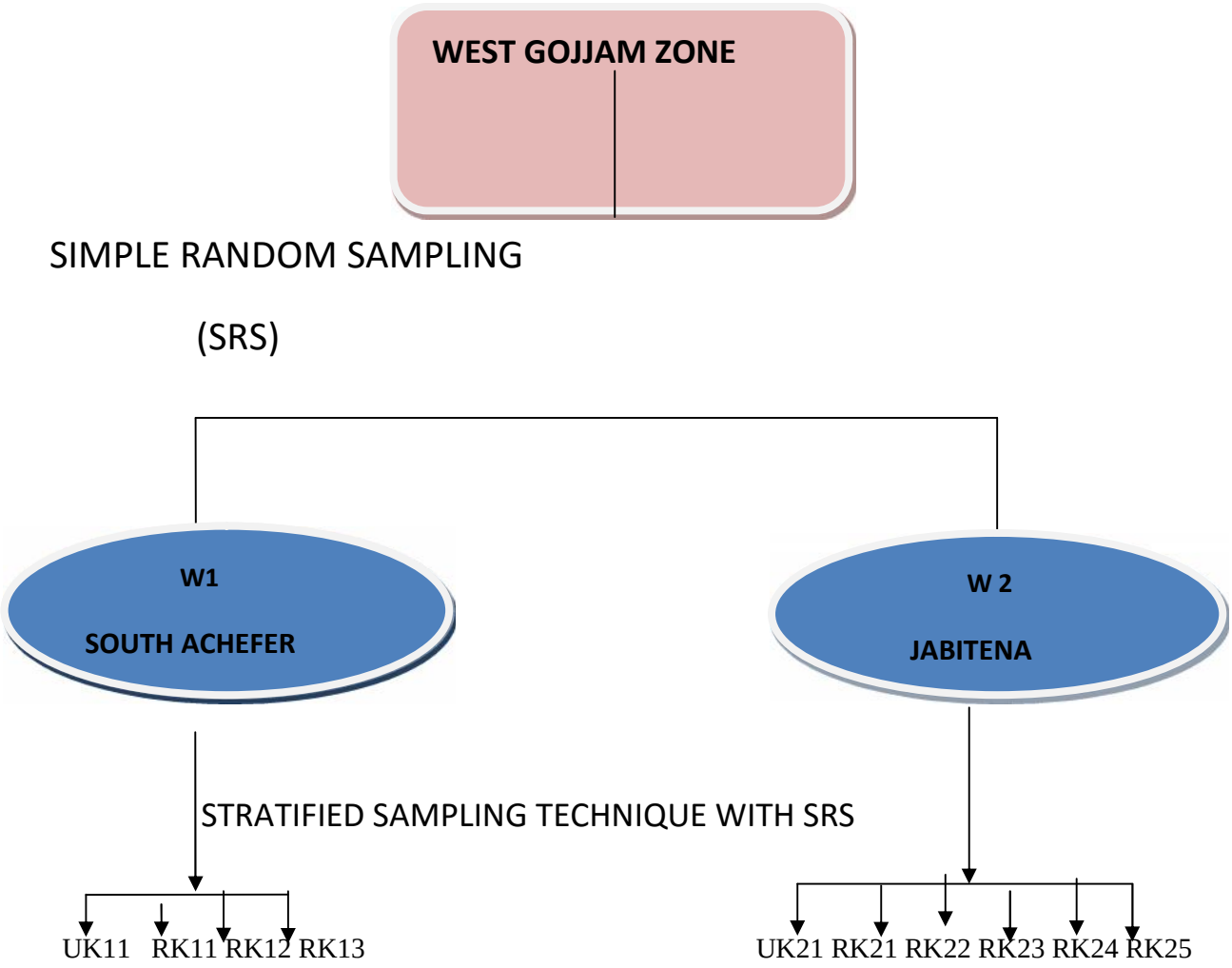
Multi stage stratified sampling technique was carried out where by lottery method had been used to select two Woredas out of fifteen Woredas of west Gojam zone. They were South Achefer and Jabitenan.

Four HCs having both treatment and AFB laboratory services from four different Woredas of WG zone were selected by lottery method. They are Merawi, Durbette, Shindi, and Jiga health centers. Health workers working in the health centers cied above and HEWs in the HPs under the catchments' of each HC were purposively selected for in depth interview and observation.

The study urban and rural kebeles in each study woredas were selected using stratified random sampling technique.

The number of HHs representing each kebeles were determined by proportional to their population size as shown above in the table 1 .The households in each study kebele were selected by systematic sampling methods. The house to house visits for data collection in randomly selected urban and rural kebeles of the study Woredas were conducted until all the required sample size has been attained.

Figure 2. Schematic presentation of sampling procedure



KEY

UK11=URBAN KEBELE 1 FROM WOREDA1, WOREDA1=SOUTH ACHEFER
RK11=RURAL KEBELE 1 FROM WOREDA 1,
RK12= RURAL KEBELE 2 FROM WOREDA 1,

RK13= RURAL KEBELE 3 FROM WOREDA 1,

UK21= URBAN KEBELE 1 FROM WOREDA 2, WOREDA2= JABITENA
RK21=RURAL KEBELE1 FROM WOREDA 2
RK22= RURAL KEBELE2 FROM WOREDA 2

RK23= RURAL KEBELE3 FROM WOREDA 2,

RK24= RURAL KEBELE 4 FROM WOREDA 2,

RK25= RURAL KEBELE 5 FROM WOREDA 2

12. STUDY VARIABLES

12.1 Dependent variables:

- **Health seeking behavior of TB suspects toward TB treatment services.**

12.2 Independent variables:

Age, sex, education, economic status, crowding index, employment status, religion, marital status, and ethnic group… etc.

13 .DATA COLLECTION PROCEDURE

13.1 DATA COLLECTION

Data collection was conducted using structured questionnaire, semi structured questionnaire (interview guide) and observation check lists. The collection of data began by trained data collectors, laboratory technologists and primary investigator following the approval of the proposal and questionnaire had made by ethical review committee and the primary advisor respectively.

Interview of consented house hold members at community was made by trained data collectors using structured questionnaire.

Observations were made at laboratory unit while a patient suspected for TB had been sent for investigation for AFB test from OPDs or for follow up AFB test. The length of stay in the laboratory by the data collectors/observant was depending on the number of expected suspected TB patients and two and half days were considered to be mandatory to observe the spot morning spot samples which costs a total of three days.

The order of data collection was depending on the condition of the work load in the facility .contacting the person in-charge of the facility for possible arrangements of laboratory technician for interview and observation had kept priority. But the in depth interview was made later on soon after other data collections had been accomplished.

PERSONNEL

Data were collected by trained data collectors. Twelve data collectors (6=F, 6=M); that is 7 nurses, 3 Health officers and 2 Pharmacy technicians, were involved in the entire data collection process at community level. Two officers , one from S. Achefer and one from Jabitenan woreda TB-Leprosy unit, were entirely involved as supervisors during the data collection. The supervisors had daily monitored the data collectors using motor bike, checking and receiving the completed questionnaires from each data collector and handed over the questionnaires to the primary investigator as well as facilitating the data collection by contacting with local administrators (kebele leaders) HCs heads and any other relevant personnels so as to smoothen the research process.

Four experienced senior laboratory technologists/technicians (all males) (1 micro biologists, 2 technologists(BSc holders), 1 senior laboratory technician with BA in management) from the regional reference laboratory were involved in observation of the laboratory technicians using observation check lists. Similarly, the TB-Leprosy officer (Female) from West Gojjam ZHD had involved in facilitating the research process through provision of data required for the research purpose requested at zonal level and in the facilitation of an official circular letter of permission for research.

TRAINING

The principal investigator had prepared data collection training field manual and offered a day long training to all enumerators in their own respective woredas using training field manual. All the required logistics such as note books, Pencils, pens, sharpener, erasers, folders, markers etc. were purchased and made available. Adequate copies of the training manuals were prepared in advance before the actual training had been offered. The training had comprised both theoretical and practical parts with appropriate emphasis on few points about tuberculosis, the objectives of the research, about the study subjects, on sampling methods and samples size in the study kebeles and identification of house hold residents systematically at community

level, on the inclusion and exclusion criteria , how to ask permission for participation in the study, the techniques of interview, taking consents and filling the questionnaire and finally got involved in pretest.

The orientation on practical session (observation technique) had included familiarizing the observation check list with special emphasis in decreasing inter-observer variability in understanding of each observation parts , individual's knowledge about TB, how to keep on consent about study subjects and fill the observation check list through group discussion and review.

Quantitative Data

The quantitative data were collected by interviewing house hold members using structured questionnaire. Each interviewer had collected data from the respondents identified in their households. The data was obtained from 1318 respondents by trained data collectors .The data collection was seriously monitored by the supervisors.

Qualitative data

Similarly, in depth interview of HWs and HEWs from HCs and HPs respectively were conducted by the primary research investigator using an Amharic version interview guide. The interview was conducted using a tape recorder immediately after obtaining an informed consent. The interview had taken about one to one and half hour. Eight HWs and four HEWs were involved in in-depth interview.

The laboratory technicians in each HC were selected for observation. Observations of laboratory technicians in the HCs were made by four senior laboratory technologists using an Amharic version observation check list. Four observers had completed all the data collection/ observation in each HC in four different Woredas (Mecha, S.Achefer, Jabitenan and Womberma) of the zone within three days time. Eight laboratory technicians were involved in observation two from each HC turn by turn .Hence four observers had covered four HCs not longer than three days in each HC.

External Quality Control

An attempt was made to collect five positive and five negative AFB slides from each HC after the data collection had been successfully accomplished. A total of forty (40) slides were collected from all HCs by the data collectors in the study for quality control. The slides were coded and brought with appropriate slide storage box obtained from the regional reference laboratory. The data collectors submitted the slides brought from the HFs to the primary investigator. The slides with their corresponding codes and AFB test results were recorded and properly stored .The slides rechecking was made in the blinded condition by independent senior lab technician in the regional reference laboratory to minimize bias. But two slides were totally removed since there was a mismatch between the codes on the slides and the recorded code on the slide reporting format. But only nine (9) AFB positive and twenty nine (29) AFB negative slides were used for rechecking. The readings from the regional reference laboratory was taken as Gold standard

13.2 Selection of Respondents:

From each health center with both TB treatment and AFB test facility , two Health Workers assigned to work most in the adult OPDs or TB unit in each HC and one HEW from a HP health post under the catchments' of the health center were enrolled for in depth interview. Before selection was made, discussion was held with the HCs' head and identified health workers who are working regularly at OPDs and or TB units selected purposively for in depth interview thinking that TB suspects contacted with them most frequently. The selection was made as per the requirements in the inclusion criteria.

The households were selected using multi stage stratified sampling technique comprising systematic sampling methods too. House hold members of age 18 years or above at house hold levels were also selected for interview on the basis of the inclusion criteria. Those household members who were on anti TB were ignored/ jumped. The households were selected by systematic sampling technique in the randomly selected kebeles of the study Woredas. Before the onset of actual data

collection, pretest had been conducted. Actual data were obtained from consented house hold residents in every 12th households. Those households residents missed /unidentified during their first visit were revisited for the second time, and when the residents were missed for the second time, the next immediate house hold resident /member was interviewed instead. Every sampled house hold was identified with serial numbers and marked with marker. Those respondents who were not willing enough/ refusals to engage in the interview at the very outset or in the midst of interview were left with appreciation. The rainy season, the muddy road condition and transport inaccessibility to rural kebeles were the most prominent challenges faced during the data collection at community level.

13.3 Data collection tools/ Instruments:

The data collection tools were produced after reviewing relevant literatures like the FMoH Ethiopia National TLCP manual 4th edition, AFP smear microscopy manual or Guide lines for quality assurance of smear microscopy for TB diagnosis, NTP's DOTS training manuals developed for similar purposes, different literatures focusing on knowledge, attitude, stigma and treatment seeking behavior of the community on/ towards tuberculosis, as well as skills of health workers about tuberculosis and adapted to the local context.

Data collection tools used to collect data in this study.

Structured questionnaire: -is used tocollect information about factors like knowledge, attitude and their behavior to seek treatment for their health (practice) related with tuberculosis and other possible socio demographic factors that attribute for low case detection

Observation checklist*:* - to assess the sputum collection and ordering as well as smearing techniques and skills of laboratory technicians.

Microscopic Slides re-checking:-to assess the smearing, staining and reading skills of laboratory technicians and quality of the laboratory services of the health centers on smear positive TB case detection at peripheral laboratory units.

Interview Guide :- to collect information about the knowledge and practices of the health workers and HEWs on TB including the identification, diagnosis and referrals of suspected TB patients for investigation to laboratory and facility by HWs and HEWs respectively through in depth interview .

14. DATA QUALITY ASSURANCE

The final English version questionnaire was translated into Amharic by the primary investigator and then commented by other person who had a very good command of both English and Amharic languages.

Pre-test of the Amharic version of the structured questionnaire were carried out at Durbette 01 and Finote selam kebele ‘‘kebeles that shares similar geographic and socio-demographic characteristics with those study areas. Twenty four respondents had participated in the pretest. Similarly, Pretest on the interview guide and observation check lists were conducted at Bahir-dar HC and near by HPs too. During the pre-test, the questionnaire was assessed for its clarity; understandability, completeness, reliability, as well as sensitivity of the subject matter. Corrections were made on repeated questions, problems on the order & response options, skip patterns, and difficult sentences, wording of questions, and time for completing each questionnaire were determined and certain modification had been carried out.

Training field manuals were prepared for the supervisor and data collectors for use during data collection. All filled questionnaires were checked daily for completeness, accuracy, clarity and consistency by the supervisor and the principal investigator and necessary corrections and changes were made too. Completeness and consistency of variables during data entry will also be checked using frequency distributions. Appropriate statistics will also be used for describing the variables and their associations.

15. OPERATIONAL DEFINITIONS:

Knowledge: What some knows about a particular subject matter [39], in this case about tuberculosis

Attitude: the feeling or thoughts of the respondents towards something [39] in this case towards tuberculosis

Health seeking behavior/action: any action taken by the individual patient to get relief from his/her symptoms. These included self-treatments, any visit to a traditional form of health care including the Orthodox Church for holy water treatment, local injectors or traditional healers, drug retail outlets (pharmacies, drug stores and rural drug vendors) or a visit to modern health care providers at public and private health facilities[13]

False-negative rate': defined as the number of smears read positive by the supervising laboratory and negative by the supervised laboratory, divided by the number of negative smears in the supervised laboratory. [20, 38]

False-positive rate': defined as the number of smears negative for the supervising laboratory and reported as positive by the supervised laboratory, divided by the total positive results reported by the supervised laboratory.[20,38]

Discordant slides: slides which were read as positive at peripheral laboratory and then re read as negative at reference laboratory or vice versa, [20]

TB suspects: persons with persistent cough (either productive or not productive) for two weeks or more. [4]

High TB Burden Counties : countries that rank first to 22nd in terms of absolute numbers of TB cases and which have received particular attention at the global level since 2000)[1]

Smearing technique: the procedure followed by laboratory technicians immediately after receiving sputum samples to examining stained smears with appropriate technique of reading until reporting using standard reporting scale [37]

Case detection rate: the number of notified cases of TB in one year divided by the number of estimated incident cases of TB in the same year, and expressed as a percentage. [1]

An active case detection: case finding strategy through which community health workers visited contacts in the home of the index case subject, identified symptomatic individuals, collected sputum specimens on two consecutive mornings, and transported the specimens to the regional mycobacterium laboratory for acid fast staining and smear microscopy. Contacts that tested positive by sputum microscopy then were referred to the local health center for treatment. [11]

Passive case detection: is case finding approach through self presentation of patients with chronic cough of 2 weeks or more duration at the health facility and on sputum smear examination for acid- fast bacilli. [11]

A case of sputum smear positive pulmonary tuberculosis: is a patient with at least two initial positive sputum smears, or one sputum smear positive plus radiographic abnormalities consistent with active pulmonary tuberculosis as determined by a clinician; or one sputum specimen positive plus culture specimen positive for Mycobacterium tuberculosis.[4]

DOTS: Is a system of treatment in which the patient is administered his or her medication by a nurse or health worker and is observed taking the medication [4]

DOTS strategy: is the brand name of the internationally recommended strategy for TB control. The DOTS strategy ensures that infectious TB patients are identified and cured using standardized drug combination [4]

16. DATA MANAGEMENT AND ANALYSIS

Following the completion of data collection, the quantitative data were categorized and coded on a well-drafted coding sheet. Then the collected data were entered into a computer using Epi-Info version 5.3.1 and transported to SPSS version 15 software program. After data entry and cleaning, frequency distribution, percentages, mean, median, (SD), odds ratios and 95% confidence intervals were used to present the findings. Multivariate logistic regression was used for the test of association between the outcome and independent variables. Most of the independent variables and the outcome variable were dichotomized and analyzed through binary logistic regression.

Similarly the tape-recorded qualitative data obtained from the in depth interview were familiarized through reviewing, reading and listening. The data were then transcribed to a word processing document; on average a one-hour discussion had taken about eight hours. The transcribed data was translated into English by the investigator. Analysis of data was performed manually through thematic analysis. Similarly, data obtained from observation was translated in to English and analyzed manually. Interpretation and analysis of data obtained from observation and slide rechecking at regional reference laboratory was made.

17. ETHICAL CONSIDERATION:

Ethical clearance and approval was obtained from Addis Continental Institute of public health and Department of Community Health in the Medical Faculty of Gondar University. The necessary permission to undertake the study was also obtained from Amhara National Regional State Health Bureau, West Gojam Zone Health Department and the local administration. All the study participants were informed about the purpose of the study and assured confidentiality of the responses. Informed consent was also obtained from the study subjects prior to each interview and observation.

18. Result

This study has involved two study designs with qualitative and quantitative parts and the findings are stated bellow.

1. Socio-demographic characteristics of the study participants in the in depth interview

The in depth interview has involved twelve health professionals. Eight were health professional working in the health centers' OPDs or TB units and four were health extension workers. Concerning their level of education, three of them were having first degree in nursing or public health, five were clinical nurses and the rest were health extension workers.

Among all the study subjects, seven were females including health extension workers and only two participants had taken in service training on tuberculosis

Manual thematic analysis of the knowledge and practices of health professionals related to the detection of pulmonary TB cases was done.

Concerning Defining of TB, almost all of them had defined that TB is a contagious /transmissible disease caused by bacteria

''…. tuberculosis is caused by a bacteria called tuberculin which is spore forming and suspended longer duration in the air and transmitted by inhalation and'' … answered by one health officer.

Concerning the routes of transmission for tuberculosis, all of them have mentioned the correct and the major routes of transmission.

About the clinical signs and symptoms of TB, all of them had correctly mentioned most of the constitutional symptoms for tuberculosis like fever, loss of weight), night sweating, loss of body weight, loss of appetite.

Moreover, almost all had mentioned cough of two weeks or more periods

Besides, they mentioned that symptoms are varying according to the type of organs affected .Most did not mention the clinical signs and symptoms related to type of organs systems affected.

'' …..''the clinical signs and symptoms are varying and there could be cough of two weeks or more period, fever, night sweating ,discharge from penis and penile swelling …..''Mentioned by a clinical nurse

Concerning the types of tuberculosis, all have pointed out that types of tuberculosis are pulmonary and extra pulmonary tuberculosis. Almost half of the study subjects had also stated that pulmonary tuberculosis are smear positive and smear negative pulmonary tuberculosis. Moreover, some of them had mentioned that extra pulmonary TB are TB lymphadenitis, TB- meningitis, TB spondilitis, TB peritonitis, bone TB

Regarding possible factors that aggravate the transmission of tuberculosis, some mentioned as due to defaulting or interruption of the TB treatment which leads to multi drug resistance TB, absence of early detection and treatment of the disease and HIV/AIDs, low treatment seeking behavior of the community and poor transport access.

''… Poor access to BCG vaccination will aggravate the chance of acquiring tuberculosis infection and studies revealed that not taking BCG vaccination will increase the chance of acquiring tuberculosis disease by 40-60%.'' Mentioned by one health worker (HO)

In addition, almost all had responded that Immuno compromised people are affected most. All have associated being immuno-compromized with living with HIV and they had mentioned that PLWHAs are the most affected ones. Half of the respondents added that malnourished people or debilitated persons and children are the most affected groups of people by tuberculosis.

Regarding defining what a TB case and a TB suspect mean, almost all the study units responded that a TB case is a patient presented with clinical signs and symptoms of

tuberculosis and the presence of the disease is confirmed through laboratory investigation or chest x-ray or any other diagnostic methods as well as the person may or may not be on the treatment..

Where as in case of a TB suspect, most agreed that it is a person with cough of two weeks or more periods, but few lesser than half of the respondents said that a TB suspect is a patient with cough of two weeks or more period, night sweating, decreased food appetite

Defining the different types of TB cases according to the TB case definition in Federal MoH TB and Leprosy prevention and control manual, defined TB case

New TB cases as TB patients who had never developed the disease before and confirmed to have the disease .Relapse case is defined by half of the respondents and few lesser than half defined that it is a TB patient who had been on anti TB treatment and completed their treatment and come up with similar illnesses and their AFB test results shows AFB positive.But transfer out, transfer in, treatment completed, chronic cases had never crossed the all respondents' mined.

Concerning in making high index of suspicion for tuberculosis , majority of the respondents said that if a patient with history of cough for two weeks or more period, having constitutional symptoms likes fever, night sweating, loss of body weight etc.

Concerning the diagnosing of TB, based on the clinical grounds and results of the investigation like laboratory, chest x- ray …etc, almost all the respondents agreed that a patient is diagnosed as smear positive pulmonary tuberculosis if all the three AFB test results are positive.

Almost half; however, in cases with two AFB test positive results, described that two AFB test results being positive is not a sufficient criteria to diagnose smear positive pulmonary tuberculosis; in addition, there should be a supportive investigation like chest x- ray that shows abnormalities on the lung or x- ray findings suggestive of pulmonary tuberculosis. One respondent said that he does not have sufficient information to diagnose pulmonary tuberculosis based on the AFB test results,

instead, no one in the health center he is currently working , is diagnosing TB individually or separately but rather by holding discussions together with other health workers working in the facility so that they agree to diagnose TB.

Concerning the conditions like having one AFB test results alone for diagnosis, more than half of the respondents considered that this is associated with an error during smearing procedure. But rather they prefer to put the patient on broad spectrum antibiotics rather than sending for chest x-ray by diagnosing as smear negative pulmonary tuberculosis. Whereas some of the respondents said that a patients with a single positive AFB test results will be sent for chest x- ray and if either the chest x-ray results is suggestive of TB or culture positivity is deemed to be definitive diagnosis for smear positive pulmonary TB

'' … TB can be diagnosed in our set up by laboratory investigation and there is spot morning spot thing…, and when three sputum samples are positive, it will be pulmonary TB positive, when the two sputum samples are positive, the patient should be sent for chest x-ray and this is mandatory .we are told during TB training and we have been doing this up to now and…. Otherwise the number of positive AFB test results must be more than two ''mentioned by another nurse (interviewee)

''… of course, we are requesting laboratory sputum tests to diagnose PTB and no doubt if three AFB sputum test results are positive… and when two of the AFB test results are positive, the guide line says the patient should be sent for further chest x-ray investigation…''cited by a health officer.

Regarding the diagnosis of smear negative pulmonary tuberculosis, some of the respondents said that a patient with all negative AFB test results are treated to be smear negative pulmonary TB without any other possible alternative diagnostic tool is used. Few said one AFB test positive and x-ray investigation suggests TB is considered to be smear negative pulmonary TB. Whereas few other diagnose smear negative pulmonary TB as when the three AFB test results are negative and x- ray examination suggested pulmonary tuberculosis. one respondent diagnose extra pulmonary TB as when all the three AFB test results are negative and chest x-ray

results suggestive of pulmonary TB. Otherwise no respondent had tried to diagnose extra pulmonary TB in any condition. Some said that extra pulmonary TB is diagnosed by private health facilities and hospitals. They are managing patients when they are referred back to them.

''… a patient with three negative AFB tests can be diagnosed as smear negative pulmonary TB without any other supportive diagnostic tools… '' mentioned by one of the respondent/nurses.

All of the respondents assured that tuberculosis is preventable disease and TB is a mjor public health problem and appreciated that TB case detecton rate is lower at national and regional levels.All tried to justify why.

2. The knowledge and practices of health workers at HPs or community about tuberculosis

The health extension workers defined TB as bacterial disease caused by a bacteria called tuberculosis and transmitted by inhalation and all HEWs mentioned that TB is caused by a bacterium called tuberculosis.

All of them mentioned that through sneezing and coughing, disposing sputum carelessly on the ground but one respondent mentioned that it can be transmitted through ingesting unpasteurized milk.

All HEWs had mentioned that cough of two weeks or more duration, night time fever, bloody sputum, profuse sweating, loss of weight and loss of appetite are signs or symptoms of TB. Also they had mentioned that pulmonary TB and bone TB are major types of TB

Aggravating factors for TB transmission are mentioned as , drinking unpasteurized milk, defaulting treatment, deliance in early treatment mentioned by half and the rest added that sharing eating and drinking materials like cup between TB patient and healthy individuals.

For the question whom do you think TB has affected most, all had responded that children and women are affected mostby TB.

''… TB has affected children and women especially pregnant women because children are more likely to drink raw milk and mothers are usually in a position to nurse and care TB patients in the family and therefore they are more vulnerable to TB infection and… ''Cited by one HEW.

For the definition of a TB case and a TB suspect mean, respondents mentioned that a TB case means a person who is confirmed to have the disease but TB suspect is a person who is suspected to have the disease but not confirmed with symptoms like cough of two weeks or more period, chest pain, night fever etc.

Regarding the types TB cases, mentioned that they did not have any information about it. More over they did not know how pulmonary TB is diagnosed since they did not take any training on this regard. However, they were making high index of suspicion of when a patient with cough of two weeks or duration, chest pain, night sweating, bloody sputum come to our health post or identified in the community, so we suspect the patient and referred him to the nearby health center.

''… from the church or anywhere else, the patient came to our health post and we ask him what he had and if he had cough of two weeks or more duration, bloody sputum , night sweating etc, we would be suspecting him for tuberculosis and referred him to Merawi health center with referral slip…''.cited by one HEW

About the existing condition and activities performed in the identification and referals of TB suspects, using the existing kebele health committees or volunteer community health workers in each Gott to identify patients with cough of two weeks or more duration and refer them back to health post.

''… there are people in our kebele who had cough for two weeks or more longer duration and they preferred holy water or traditional healers and may be cough could be related with HIV since now a days the community start to know HIV patients can have TB but we are teaching the community …..'' Cited by one of the HEWs

Regarding the response of the TB patients during the course of TB treatment ,all HEWs suggested that TB patients in the community usually complaining on the long journey they walk to get their treatment at the HC and strongly urge us to give them treatment at the health post.

''… Four days back for example, I got a TB patient and she had strongly complained on the long walking distance to the HC for TB treatment.…'' Cited by same HEW

Concerning why smear positive PTB case detection rate gets lower, one HEW had responded that the HSEP is working effectively on preventive activities on TB prevention and others mentioned that some of TB suspects were not identified earlier and may be went to other like holy water or other and some died at home without getting treatment.

Observation results from laboratory unit

Eight laboratory technicians working in four selected HCs with AFB test facilities were involved in observation. Concerning their level of education, one of them was having first degree in laboratory technology and the rest were senior laboratory technicians (diploma) and all of them were males and had taken in-service training in AFB testing for tuberculosis within the last two or more years.

Sixty six sputum smears obtained from twenty four patients (21 patients from spot morning spot samples and 3 sputum smears from three patients coming for follow up) were observed in four HCs.Most labortory technicians did not maintain confidence over the patient through instructing on how to cough and why having adequate sputum samples for the examination.In more than half the observations, the patients were not advised to rinse their mouse before producimg sputum of early morning sputum samples despite all TB suspects were offered standard sputum cups. .

Some of the patients were fail to succeed in producing adequate sputum and among these in more than half of them were not attempted to take actions by all laboratory technicians. More than a quarter sputum samples were not purulent or muco purulent and other equivalent proportions of the samples were containing saliva only recived by most laboratory technicians. Even though equivalent proportions of sputum

samples were streaked with blood, few sputum samples were containing abundant blood.Some study groups were using match sticks or local dry grass for smearing when wooden applicators were not around.

Few lower than half of the observations in half of the study groups did not maintain the evenness and appropriate size of the smear (3cm in length and 2cm in wide), a bit higher than this observations showed no maintenance in acceptable thickness of smear and very few of them did not maintain appropriate shape of the smear (oval shape).Besides, in some of the observations, the slides were dried bellow 15 minutes and in the rest were dried above 30 minutes.

Similarly, no one had practiced in holding of smear was made to about 4-5 cm over the pieces of printed paper prior to staining in all observations .However, almost half of the smears in most study subjects were not flooded in a gentle stream tap water again after being treated with 3% acid alcohols.

Almost all of the study subjects were following different techniques of reading of the stained smears. In a bit lower half and a bit higher than half of the observed smears, horizontal and zigzag types of reading technique were followed respectively while reading stained smears. But for few observed smears, observers were not sure about the reading technique followed by two of laboratory technicians. Among all the observations, 100 fields were not examined in half of smears by most study participants. Among all the observed smears, only two AFB test results were found to be positive.

The results of the slide examination is shown bellow by 2X2 table

Table 3 Agreement in readings of slides between peripheral diagnostic centers and the Regional reference laboratory, July 2010

Peripheral reading	Regional laboratory reading (Goldstandard)		
	Positive	Negative	Total
Positive	True positive(8)	False positive(1)	9
Negative	False negative (6)	True negative(23)	29
Total	14	24	38

Thirty eight slides were rechecked by the regional reference laboratory and 7(18.4%) slides were found to be discordants. The false positivity rate is 1 (11.1%) which is far higher than the expected false positive rate (4.5%). The false negativity rate is found to be 6(20.7%) which is above ten times higher than the tolerable or acceptable false negative rate (1.5%) as stated by NTBLC

The sensitivity, specificity, the positive and negative predictive values of the peripheral laboratories is 57.1%, 95.8%, 89 % and 79.3% respectively.

Results for community survey

A total of 1318 house holds' residents with an edge of 18 years and above were interviewed. Thirty five (2.7%) respondents were excluded from the study owing to refusal or defaulting in the midst of the interview. Majority (72.5%) of them were rural residents and 712(54%) were female respondents. Moreover, Farming was the means of lively hood for half (50.2%) of the respondents and nearer to two quarters 570(45.4%) were illiterate and similar proportion (40%) of households were resided by more than five residents. One third of the respondents 422(33.6%) were in the age range of 25-34 years and the mean and median ages of the respondents were 33.3 and 30 years respectively with $\pm$ 12.42 SD.

Table 4 Socio demographic characteristics of respondents of Jabitenan and S. Achefer districts in West Gojjam zone by urban and rural residence, July 2010

Characteristics	Rural	Urban	Total
	No (%)	No (%)	N (%)
Respondents' interviewed			
Sex			
Male	456(50.1)	138(39.9)	594(47.3)
Female	454(49.9)	208(52.7)	662(52.7)

Age			
15-24	232(25.5)	72 (20.8)	304(24.8)
25-34	286(31.4)	136(39.3)	422(34.4)
35-44	183(20.1)	70(20.5)	254(20.7)
45-54	110(12.1)	36(10.4)	146(11.9)
55-64	48(5.3)	23(6.6)	71(5.8)
>64	27(3)	3(0.9)	30(2.4)
Occupation			
Farmer	570(62.6)	60(17.3)	630(50.4)
House wife	177(19.5)	95(27.5)	272(21.7)
Students	106(11.6)	35 (10.1)	141(11.3)
Merchant	30(3.3)	75(21.7)	105(8.4)
Gov't employee	10(1.1)	28(8.1)	38(3%)
Others (Jobless etc)	16(1.8)	49 (14.2)	65(5.2)
Education			
Illiterate	457(50.2)	113(32.7)	570(45.4)
Primary school	332(36.5)	127(36.7)	459(36.5)
Secondary school &+	121(13.3)	106(30.6)	227(18.1)
Marital status			
Married	725(79.6)	225 (65)	950(75.6)
Single	156(17.1)	95(27.5)	251(20)
Divorced	8(0.9)	10(2.9)	18(1.4)
Widowed	21(2.3)	16 (4.6)	37(3)
Ethnicity			
Amhara	903(99.2)	338(97.7)	1241(99)
Others (Tigre, Oromo)	4(.4)	8 (2.3)	12(1)

Crowding index			
< 4 members	240(26.4)	157(45.4)	397(31.6)
4-5 members	243(26.7)	108(31.2)	351(28)
>5 members	427(46.9)	81(23.4)	508(40.4)
Average house hold income			
No income	179(19.7)	91 (26.3)	270(27.8)
1-300 ETB	341(37.5)	74(21.4)	415(42.8)
301-500 ETB	89(9.8)	57(16.3)	146(15.1)
501-1000 ETB	62(6.8)	42 (12.1)	62(6.8)
Above 1000 ETB	14(1.5)	21(61.1)	35(3.6)
Religion			
Orthodox	896(71.3)	261(20.8)	1157(92.20)
Muslims	3(0.02)	81(6.4)	84(6.76)
Others	1(0.01)	4(0.03)	5(0.04)

Knowledge about pulmonary TB

Among the all the study subjects, 1256 (95.2%) ever heard about pulmonary tuberculosis. Among these, 480(38.2%) got information from mass media (Radio or television), 339(27%) from medical personnel and 75(6%) from school education for the first time respectively. Poor sanitation, microscopic- organism or bacteria or germ, malnutrition, HIV/AIDS and exposure to bird/cold were regarded as a primary causes for pulmonary tuberculosis were mentioned by 528(42%), 337(26.8%), 271(21.6%), 48(3.8%) and 36 (2.8%) of the respondents respectively.

With regard to the routes of transmission for pulmonary tuberculosis, Majority 974(77.5%) of the respondents believed it through inhalation while sneezing or coughing, whereas 359(29.9%) through sharing a meal with TB patients, 215(17.8%) by hand shaking, some others mentioned through breast feeding. Concerning the major signs and symptoms of tuberculosis, most 976(77.7%) of the respondents cited cough of two weeks or more duration, also weight loss, bloody sputum ,chest pain

and night sweating were mentioned by 439 (35%) , 393(31.4%) ,379(30.2%) and 170(13.5%) of the respondents respectively.

The possible modalities for prevention of pulmonary tuberculosis mentioned by the study group were proper hygiene and sanitation, being isolated from the diseased and immunization and these were stated by 608(48.4%), 445(35.4%) and 170(13.5%) the respondents respectively and 312(24.4%) believed that TB is not preventable. Almost half 614(48.9%) of the respondents mentioned that the rural community are most susceptible groups that can be affected most by tuberculosis and (39.6%)stated the poor, 429(34.2%) mentioned persons living with pulmonary TB patients, 338(26.9%) alcoholics or smokers and 239(19%) had mentioned as a person living with HIV.

Seven hundred forty one (59%),414(33%),285(22.7%) and 26(2.1%)of the respondents have mentioned that TB can be acquired from pulmonary TB patients, polluted air, contaminated water, from health personnel or health units respectively .

Also 1108(88.2%) of the respondents knew that TB is a curable disease and also 1009(80.3%) get satisfied with the modern TB treatment.

The overall respondents' knowledge score was computed based on the routes of transmission, causes, major signs and symptoms, curability, prevention modalities, susceptibility for PTB with a maximum score of 14.

The mean and median scores on the knowledge of respondents about pulmonary tuberculosis with $\pm$ 3.0873 SD are 5.6218 and 5.00 respectively. However, in this study, for knowledge score of point 7 was taken as a cut of point. Among all the respondents, who had answered correctly with score 7 or more points, 433(34.5%) had good knowledge about PTB. When we compare the knowledge of respondents with cough and non cough, individuals with cough 38(26.6%) had good knowledge about TB which is lower than knowledge score of healthy respondents 387(36.8%).Urban sick respondents 17(53%) had good knowledge than rural coughers 21(19%).Also, slightly higher proportion of males (28.8%) had good knowledge than (24.6%) females about PTB.

Table: 5 Respondents' characteristics related with low and high PTB knowledge score in the West Gojjam zone of S.Achefer and Jabitenan woredas, July 2010

Variables	High knowledge score	Crude OR	Positive attitudes score	Crude OR
Sex	Number (%)	95% CI	Number (%)	95% CI
Male	235 (39.6)	1.00	310(54.4)	1.00
Female	198 (29.9)	0.652(0.516, 0.824) **	297(46.6)	0.733(0.584, 0.919)
Age				
15-24	110(36.2)	1.00	172(57.3)	1.00
25-34	146(34.6)	0.933(0.686, 1.270)	196(49.2)	0.722(0.534, 0.976)
35-44	95(37.5)	1.054(0.746, 1.489)	118(49)	0.714(0.508, 1.004)
45-54	46(31.5)	0.811(0.533, 1.285)	67(46.5)	0.648(0.434, 0.965)
55-64	17(23.5)	0.555(0.307, 1.005)	28(41.8)	0.534(0.312, 0.914)
>64	9(30)	0.756(0.335, 1.707)	12(41.4)	0.525(0.242, 1.139)
Educational status				
Illiterate	123(21.6)	1.00	195(36)	1.00
Primary school	177(38.6)	2.281(1.734, 3.000) **	238(53.4)	2.030(1.572, 2.622) **
Secondary &+	133(58.6)	5.142(3.693, 7.160) **	174(79)	6.712(4.639, 9.710) **
Marital status				
Married	300(31.6)	1.00	413(45.3)	1.0
Single	116(46.2)	1.862(1.402, 2.472) **	169(69.3)	2.717(2.01.3.674 **
Divorced	7(38.9)	0.379(0.529, 3.592)	8(50)	1.206(0.449, 3.241)
Widowed	10(27)	0.802(0.384, 1.679)	17(47.2)	1.079(0.554, 2.103)

Crowding index				
< 4 members	131(33)	1.00	182(41.4)	1.00
4-5 Members	121(34.5)	0.890 (0.674, 1.174)	191(57.2)	1.456(1.1, 1.926)
> 5 members	181(35.5)	0.950(0.715, 1.264)	234(47.8)	1.456(1.100, 1.926)
Households' income				
No income	103(38.2)	1.00	136(52.3)	1.00
1-300ETB	178(42.9)	1.218(0.890, 1.666)	170(41.8)	0.227(0.91, 0.565) *
301-500ETB	51(35)	0.870(0.572, 1.324)	86(61.9)	0.148(0.60, 0.365) **
501-1000 ETB	42(40.4)	1.098(0.692, 1.744)	87(86.1)	0.336(0.131, 0.862) *
>1000ETB	19(54.3)	1.925(0.948, 3.912)	29(82.9)	1.286((0.452, 3.654)
Area of residence				
Urban	142(41.1)	1.00	189(59.4)	1.00
Rural	291(32)	0.675(0.523, 0.872)*	418(43)	0.606(0.467, 0.785) **

Table 6 Respondents' characteristics related with high PTB knowledge and attitude score in the West Gojjam zone of S.Achefer and Jabitenan woredas with Adjusted OR, July 2010

Variables	High knowledge score	Adjusted OR	Positive attitude score	Adjusted OR
Sex	Number (%)	95% CI	Number (%)	95% CI
Male	235 (39.6)	1.00		
Female	198 (29.9)	0.799(0.619, 1.032)		
Educational status				
Illiterate	123(21.6)	1.00	195(36)	1.00
Primary	177(38.6)	2.125(1.588, 2.844) **	238(53.4)	1.716(1.252, 2.352) *
Secondary&+	133(58.6)	4.771(3.254, 6.997) **	174(79)	4.510(2.803, 7.256) **

Marital status				
Married	300(31.6)	1.00	413(45.3)	1.00
Single	116(46.2)	0.992(0.715, 1.376)	169(69.3)	1.789 (1.197, 2.674)
Divorced	7(38.9)	1.342(0.490, 3.673)	8(50)	1.039 (0.321, 3.362)
Widowed	10(27)	1.147(0.537, 2.451)	17(47.2)	1.415(0.627, 3.193)
Area of residence				
Urban	142(41.1)	1.00	189(59.4)	1.00
Rural	291(32)	0.859(0.651, 1.134)	418(43)	1.055(0.755, 1.473)
Households' income				
No income			136(52.3)	1.00
1-300ETB			170(41.8)	1.110(0.775, 1.588)
301-500ETB			86(61.9)	2.384(1.495, 3.801) **
501-1000ETB			87(86.1)	7.349(3.848, 14.035 **
>1000ETB			29(82.9)	3.126(1.196, 8.173)

* Signifies P<0.05 **Signifies p<0.01

Attitude towards pulmonary TB

Among all the study subjects, 108(13.5%) of them would not reveal to others if they had TB. Also, one third (30.9%) of the respondents believe that people living with tuberculosis should be quarantined. Moreover, 467(38.7%) of the respondents are not willing enough to share a meal with a known TB patients. Three hundred eighty nine (32.9%) of the respondents agreed that TB is a divine punishment.

Four hundred sixty eight (38.8%) respondents were felt something unusual while they see TB patients, and 218(18.1%) of the respondent felt very much and somewhat respectively. Similarly, 333(28.1%) of the respondents feel afraid of people affected by or suffering from pulmonary tuberculosis. Moreover, 359(30%) agreed that making the names of People with TB should be made public to protect the health of the general public had contributed in protecting public health. In line with this,

322(26.8%) of respondents agreed that the legal separation of TB patients could ensure public health.

The overall respondents' attitude score was computed based on their beliefs related with PTB, whether it is a curse from God or not, degree of feeling like something unusual while they see TB patients, names of People with TB should be made public, legal separation of TB patients to ensure public health with a maximum score of 25 using likert scale.

The mean and median scores for attitudes of the respondents towards pulmonary tuberculosis with $\pm$ 4.107 SD are 16.657 and 17.00 respectively. Among 1207 respondents, half 607(50.29%) of them had positive attitude towards tuberculosis and similar proportion 600(49.71%) had negative attitude towards tuberculosis.

Stigma and Discrimination of TB patients

Among all the study subjects, 184(15.4%) of them were not willing enough to celebrate religious ceremony with TB patients and 20(1.7%) of them were not sure about it. Besides, 223(18.6%) of the respondents were not willing enough to keep their friend ship with their closer friend who once developed TB and put on anti TB treatment and 18(1.5%) were not sure about it. In addition, 272(22.6%) of the respondents had never continued in shopping from a grocery or small shop when the owner of the grocery had developed tuberculosis.

Similarly, 172(14.3%) of the respondents stated that they would have sent their child to other school if one of the students known to have TB had attended the same school with his child and 37(3.1 %) of them were not sure. On the other hand, 92(7.6%) of the respondents were not willing enough to nurse and care TB patients at home if they had been supposed to be in involved in the same condition. Twenty six (2.2%) of the respondents were not sure about it.

Treatment seeking Behavior

Among all the respondents, 143(11.3%) of them had cough of two weeks or more duration. Among these, 14(9.8%),63(44.1%) and 66(46.2%) had cough persisting for 14 days only,15-21 days and more than 21 days respectively.Moreover, Among 143 TB suspects, 83(58.7%) preferred to seek treatment and the rest 59(41.3%) did not so.

Among 83(58.7%) sick respondents (TB suspects) who determined to seek treatment, 55(66.3%) sought treatment at medical facilities (positive treatment seeking) and the rest 27(18.9%) preferred at Holy water and traditional healers. Besides, Among 143 coughers, 59 (41.6%) of them never sought treatment at all. Hence, 67 (49.6%) did not seek treatment at medical facilities.

The overall respondents positive treatment seeking practice score was computed based on their preferences to get treatment at western/ modern medical facilities (Hospitals, HCs and private health facilities), having confidence in obtaining cure, and had determined to seek treatment with a maximum score of 5.

Comparison of the treatment seeking practices of the sick respondents was made by taking score /point 3 as a cut of point)

The mean and median scores for treatment seeking behavior of the TB suspects $\pm$ 0.743 SD are 2.493 and 2.00 respectively.

Among 143 prolonged coughers, 56(39.4%) of them had positive treatment seeking behavior. Female sick respondents 35(45.4%) had better treatment seeking practices than 21 (32.3%) male respondents ; however, less female than male preferred to get treatment in relatively at higher level that costs more price like hospital and private facilities. In the contrary, more females than males preferred to get treatment in non medical facilities such as holy water and traditional healers which might be less costly than hospitals and private health facilities.

Table 7 shows the treatment seeking behavior/ the respondents with cough of two weeks or more duration by sex and area of residence July2010

Variables	Male	Female	Rural	Urban
	No (%)	No (%)	No (%)	No (%)
Have had cough				
Yes (142)	66(53.2)	77(62.1)	111(78.2)	32(22.5)
No (1053)	501(47.6)	552(52.4)	773(73.4)	280(26.6)
Duration of cough				
14 Days only (14)	7(10.6)	7(9.1)	8(7.3)	6(18.8)
15- 21 Days (63)	28(42.4)	35(45.5)	48(43.2)	15(41.7)
Above 21 Days (66)	31(47)	35(45.5)	55(49.5)	11(34.5)
Sought treatment				
Yes (83)	31(47.7)	52(67.5)	62(56.4)	21(65.6)
No (59)	34(52.3)	25(32.5)	48(43.6)	11(34.4)
Sought treatment at				
Hospital	4(12.9)	2(3.9)	4(6.4)	2(9.5)
Health center	17(54.8)	27(51.9)	37(59.7)	7(33.3)
Private HFs	4(12.9)	1(1.9)	1(1.6)	4(19.0)
Health posts	-	-	-	-
Traditional healer	1(3.2)	8(15.2)	6(9.7)	3(14.4)
Holy water	5(16.2)	13(25.1)	14(22.6)	5(23.8)
Mode of transportation to reach at the facility				
On foot	27(73)	50(80.7)	18(47.4)	59(93.7)
Mule/animals back	3(8.1)	3(4.8)	6(15.8)	-
Public transport	7(18.9)	9(14.5)	12(31.8)	4(5.3)

Variables	Male	Female	Rural	Urban
Time taken to reach at facility				
<1 hour	14(43.8)	28(53.9)	24(38.1)	18(85.7)
1-2 hour	13(40.6)	18(34.6)	29(46)	2(9.5)
>2 hour	5(15.6)	6(11.5)	10(15.9)	1(4.8)
Reasons for consulting facilities				
Being easily accessible	4(10)	12(17.4)	12(13.6)	4(18.9)
Obtaining cure	21(52.5)	36(52.2)	48(54.6)	9(42.9)
All services are available	6(15)	8(11.6)	14 (15.9)	-
Services are free	2(5)	6(8.7)	4 (4.6)	4(19.1)
No other alternatives	1 (2.5)	1(1.5)	2(2.3)	-
Advised by somebody	4(15)	8 (8.7)	8 (9.1)	4(19.1)
Reasons for not consulting the services				
Unavailability of services	1(2.1)	4 (9.8)	5 (6.4)	-
Far distances from facility	1 (2.1)	4 (9.8)	5(6.4)	
Financial constraints	8 (16.7)	10 (24.4)	16 (20.5)	2(18.2)
Symptoms are not serious	21(43.8)	11(26.8)	27(34.6)	5(45.6)
Fear of diagnosis	-	1(2.4)	1(1.3)	-
Fear of social isolation	4(8.3)	2(4.9)	6 (7.7)	
Long waiting time	1(2.1)	-	1 (1.3)	-
Poor health service quality	1 (2.1)	1 (2.4)	1 (1.3)	1(9.1)
Task over burden	11(22.9)	8 (19.5)	16 (20.5)	3(27.1)

Table: 8 Respondents' characteristics related with negative and positive treatment seeking practice/ behavior of TB suspects in the West Gojjam zone of S.Achefer and Jabitenan woredas July 2010

Variables	Positive practice score	Crude OR	P-value
Sex	Number (%)	95% CI	
Male	21(32.3)	1.00	
Female	35(45.4)	1.746(0.879, 3.469)	0.112√
Age			
15-24	10(41.7)	1.00	
25-34	22(46.8)	1.232(0.456, 3.321)	0.681
35-44	9(29)	0.573(0.186, 1.760)	0.330
45-54	4(28.6)	0.560(0.136, 2.306)	0.442
55-64	6(42.9)	1.050(0.277, 3.985)	0.943
>64	4(44.4)	1.120(0.239, 5.251)	0.866
Educational status			
Illiterate	33(42.3)	1.00	
Primary	20(39.2)	0.880(0.428, 1.807)	0.438
Secondary&+	3(23.1)	0.409(0.104, 1.604)	0.200 √
Marital status			
Married	45(41.3)	1.00	
Single	7(31.8)	0.664(0.250, 1.759)	0.751
Divorced	2(50)	1.422(0.106, 3.063)	0.410
Widowed	2(29.2)	0.569(0.106, 3.063)	0.730

Crowding index			
< 4 members	56(39.7)	1.00	
4-5Members	12(21.6)	0.718(0.291, 1.774)	0.433
> 5 members	26(44.8)	1.246(0.576, 2.775)	0.473
Households' income			
No income	14(48.3)	1.00	
1-300ETB	11(34.4)	0.561(0.200, 1.573)	0.272
301-500ETB	4(33.3)	0.536(0.132, 2.781)	0.384
501-1000ETB	4(50)	1.071(0.224, 5.128)	0.931
>1000ETB	29(82.9)	1.071(0.224, 5.128)	0.962
Area of residence			
Urban	6(19.7)	1.00	
Rural	50(45.4)	3.611(1.377, 9.467)	0.09√
Duration of cough			
14 days only	8(57.1)	1.00	
15-21 days	23(36.4)	0.431(0.133, 1.399)	0.161√
Above 21 days	25(38.5)	0.469(0.145, 1.511)	0.205
Knowledge			
Poor knowledge	40(38.1)	1.00	
Good knowledge	16(43.2)	1.238(0.579, 2.648)	0.582
Attitude			
Negative Attitude	28(36.4)	1.00	
Positive attitude	28(43.1)	1.324(0.674, 2.603)	0.415

√ signifies P-value bellow 0.21

Table 9 Respondents' characteristics related with positive and negative treatment seeking practice score in the West Gojjam zone of S.Achefer and Jabitenan woredas with Adjusted OR and P-value, July 2010

Variables	Positive practice score	Adjusted OR	P-value
Sex	**Number (%)**	**95% CI**	
Male	21(32.3)	1.00	
Female	35(45.4)	2.139(0.953, 4.799)	0.065
Educational status			
Illiterate	33(42.3)	1.00	
Primary	20(39.2)	0.983(0.425, 2.275)	0.968
Secondary &+	3(23.1)	1.138(0.236, 5.478)	0.872
Area of residence			
Urban	6(19.7)	1.00	
Rural	50(45.4)	5.274((1.737, 16.016)	0.03
Duration of cough			
14 days only	8(57.1)	1.00	
15-21 days	23(36.4)	0.263(0.69, 1.006)	0.51
> 21 days	25(38.5)	0.262(0.68, 1.013)	0.52

19. Discussion

The knowledge of health workers about tuberculosis is a potential determinant to diagnose pulmonary TB. The health workers are always mainly relying on the investigation results of the patient to diagnose TB.

The findings from the in depth interview revealed that almost all of the respondents sufficiently know about PTB on the causes (etiology), routes of transmission, the major signs and symptoms, treatment phases and making high index of suspicion of PTB, there are similar findings in the survey conducted on HWs in Eraq that more than 80% of HWs had good knowledge about TB in a similar parameters. But in relation to their knowledge about the EPTB, few of them had answered correctly about it; similarly studies conducted in Eraq documented (40-60%).[34]

To use two AFB test result for diagnostic purpose of PTB, there should be an additional investigation support like chest X-ray findings. Therefore, if two AFB tests are positive, patients were requested to have an additional investigation for chest x-ray. This indicated HWs still are causing patient deliance, misdiagnosis or over diagnosis of smear negative PTB as well as not complying with the national TB manual.

There is wide knowledge gap among most of the health workers in pulmonary TB diagnosis and in identifying the correct treatment regimen and TB case definition regardless of having taken the in service training and level of qualification.

In a study conducted in Kenya and Pakistan on knowledge, attitude and practice of private practioner, there was a significant gap between the WHO provided DOTS guideline and PPs' knowledge, attitude and practice regarding TB diagnosis and management. Even though far better proportion of our HWs (all study subjects) in this study give priority for sputum examinations to diagnose PTB than the study groups in Pakistan and Kenya [40, 41]; however, our finding is lower than the findings in Eraq (78.3%) in active TB case (PTB+) detection [34]

Some of the respondents diagnose smear negative pulmonary TB as when one of the three AFB test result is positive and chest x-ray finding in case shows abnormalities. The main reason behind was one AFB test positive is owing to erroneous laboratory findings and the x- ray findings could be due to other lung abnormalities (possible differentials).

For patients with one of the three AFB test results positive only, instead of requesting the chest x-ray, they should have requested two additional sputum. Half of the respondents were not diagnosing the smear positive PTB cases correctly following the national TB guide line, and this has significantly showed health workers did not comply with national TB guide lines. Moreover, during the observation while the investigator was in the facilities, two HCs did not have diagnostic algorithm for PTB and EPTB posted in the OPD. But in one of the other two HCs, posted in the TB unit rather than OPD but in the other, it was not in a reasonable distance from the OPD physician. This could be one of the possible reasons for poor TB case detection or misdiagnosis at facility level. The undetected smear positive PTB cases had an additional opportunity to transmit the infection to the community. Moreover, it is also the possible factor to cause health system delay for TB case detection. Moreover, patients were exposed to unnecessary expenses interms of time and finances to chest x-ray at hospitals or anywhere else.

Having known the treatment category for TB could not have any direct connection with diagnostic skills of PTB; in general health works did not clearly know or remember the treatment categories of TB but rather they knew the treatment phases and their advantages. Similar findings documented in Pakistan [40]

Despite HEWs had good knowledge about TB concerning the cause of TB, routes of transmission and constitutional symptoms of TB and prevention of TB; however, they did not know about treatment phase, types of anti TB drugs, type of TB this could be luck of training etc. Even though they actively identifying and referring TB suspects, still they are facing resistance from the suspects to go to the HC due to inaccessibility or distance as well as preferencr of treatment options. This has implied less effort has

been applied to convince the community and ineffective mobilization of the community through volunteer community health workers.

The AFB test results reported by the laboratory technician is the most potentially determining factor to resolutely decide and the patient to be diagnosed as smear positive or negative PTB by the clinician in the OPD despite the diagnostic skills/ knowledge and interpretation of the physician has played its own role.

According to the national AFB smear microscopy manual, the expected and accurate results of AFB test is determined by the quality of smears prepared, staining quality and the correct procedure followed by laboratory technicians during (all AFB test or smearing procedures) like fixation, smearing , reading, staining , recording and reporting

The observation of eight laboratory technicians in four major health centers serving more than 200,000 people revealed that there was no regular and uniform instruction offered to patients how to cough and produce appropriate and quality sputum in spite of adequate volume of sputum was brought by most. Some patients with inadequate sputum samples were not assisted to bring adequate sputum. Lack of adequacy in the sample will lead to missing adequate bacilli during examination and will lead to negativity for AFB test.

Moreover, In a half or more of the observed samples, sputum samples being not muco-purulent, few with abundant blood and some with saliva only has significant effect on the results and will lead to negativity of the AFB test result.However, sputm abundantly streaked with blood lead to false positivity.

Though most used the recommended wooden applicator for smearing, using local dry grass or match sticks seen in few of observed samples cause inability to detach the particles (lacks power) in the sputum so that the samples lacked up being concentric and unable to easily distribute and observe the bacilli, therefore causes negativity on the result; Moreover, drying the slides smear in less than 15 minutes seen some of

the smears which cause bacilli being washed away (poor fixation) easily by water and can attribute in removal of bacilli from the smear affect the result.

All the study subjects in all observations never checked the quality of smears through the thickness of the smear over 4-5 cm printed papers prior to staining to ensure quality of smear; therefore, the observed smears without maintaining standard thickness of smear (neither too thick nor too thin) cause wrong AFB test result.

Examining 100 fields were not done in half of the observations by most study subjects and this has minimized the chance of detecting the bacilli so that AFB test result being compromised and will lead to AFB test negativity. Besides, more than half of the observed smears were read technically in zigzag and very few of them in undefined ways (neither zigzag nor horizontal ways) and this may lead them to poorly detecting the bacilli and end up with negative AFB tests.

Observation had showed that laboratory technicians were not keeping the standard time allocated for some specific procedures either getting faster or deliance which has certain effect on the AFB result.

The observation results in general shows significant deviation from the standard procedures in most observations as compared to ths standard set in the national guide lines and laboratory technicians were not following strictly or did not comply with the AFB smear microscopy manual prepared by EHNRI FMoH.

The slides re-examination was made to assess the quality of laboratory test in the facility and quality control conducted.

A total of thirty eight slides with different AFB test result were taken, eight positive and thirty negative slides taken. The major focus was to keep consistent with the observation result and on the slide examination result during observation, one HC had two AFB positive results slides obtained during observations, the rest were unable to have positive AFB positive slides in them except one HC with six AFB positive slides from the previous lab examinations.

In this study, the proportion of discordants 7(18.4%) is higher than the findings in other studies. [20.29] the false positivity rate is 1 (11.1%) which is higher than the expected false positive rate (4.5%). The false negativity rate is found to be 6(20.7%) which is ten times higher than the tolerable or acceptable false negative rate (1.5%) as stated by NTBLC [38]. This finding is quite higher than other studies. [20, 23, 29].This implies possibilities in ineffective detection of the AFB so that affection to smear positive pulmonary TB diagnosis or overdiagnosis of smear negative PTB and signifies the infectiousness of TB. Moreover, the patients could be wrongly diagnosed as smear negative PTB had led to patient mismanagement which inturn exposed to drug side effects and unnecessary additional expenses. [20]

False negativity could be owing to not following the standard guide line while smearing, staining and reading of smears (not following a horizontal type of smear reading technique) as well as not examining in 100 fields and. Therefore, this can affect the smear positive PTB case detection negatively. Further investigation on large scale study is required for significant intervention.

The sensitivity, specificity, the positive and negative predictive values of the peripheral laboratories was 57.1%, 95.8%, 89 % and 79.3% respectively. The peripheral laboratory units seem less sensitive and more specific .This finding is far different from the study findings in other areas. [20, 23, 29]

Despite slight difference in prediction of tests between positive and negatives slides, the result has shown that the peripheral laboratories predict positive tests more than negative tests.

The community survey had demonstrated that considerable proportion (97.8%) of the respondents (Male=550(47.3%), Female = (52.7%) 612) ever heard about pulmonary tuberculosis. Similar proportion of respondents with equivalent gender proportion heard about TB as that of in China. [16]

Among 1256(97.8%) respondents, nearly half (41.2%) of them received information from mass -media (radio or TV) and 29.9% from health personnels and few of them from school education TB. This might be owing to tailored radio and TV messages about PTB being disseminated and current rural health extension workers had promoted health messages at house hold level. But an organized and regularly

scheduled school health education program on pulmonary TB seems lacking in the study area.

Though majorities heard about TB and in spite of courageous proportion (77.5%) of respondents stated inhalation as one of the major routes of transmission, 33% and 22.7% of the study participants mentioned that TB can also be acquired by polluted air and contaminated water. Only 26.8% mentioned bacteria or germ primarily cause PTB and the rest 63.6% of them cited epidemiologically incorrect etiologic agent including exposure to ‘’Bird’’ which means a local expression referring to a disease believed to be caused by exposure to a wind or a cold weather. Besides, immunization as one of possible modalities for PTB prevention was mentioned by 13.5% of the respondents only; no one has mentioned TB case treatment as well as 24.4% did not know any about prevention of TB.

In this study, the median knowledge score (prevalence of knowledge) of all the respondents and cough patients was 34.5% and 38(26.6%) respectively. This has shown that there is an enormous knowledge gap concerning pulmonary TB among the general public. This knowledge differences can significantly be associated with status of education with (Illiterate/Literate, AOR = 3.206; 95% CI (2.593, 4.074) and p-value <0.001. This could be due to better access to information and high literacy levels. Differences in literacy rate and access to health services and information suggested as attributing to the TB-knowledge variation among urban and rural as well as male and female respondents. The literacy rate for urban respondents was significantly higher than those from rural areas .More males (69.6%) respondents had than females (41.4%) and residents in urban area (67%) than in rural area (49.8%).In a similar study conducted in Tigray region, knowledge of PTB disease was lower among women, illiterate and rural residents [9].Similar findings were documented in other studies [34].

Among all the respondents, 13.5% would not reveal to others if they had TB and 30.4% believed that TB patients should be quarantined and 38.7% were not willing enough to share their meal with TB as well as 32.9% agreed that TB is a divine punishment or curse from God. In line with this, 38.3% felt quite unusual feelings

while the saw TB patients and 11% hate TB patients (Half of them hated very strongly). The result revealed that half of the respondents had negative attitude towards tuberculosis. Therefore a potential ground could be created for stigmatization of pulmonary TB patients in the community. In a similar study in Ethiopia, shows significant proportion of ostracism of TB patients [9]

Among the respondents, 15.4% were not willing enough to celebrate religious ceremony, 22.6% never continued in shopping from a small grocery or shop when a person developed TB person, 14.3% would send their child to other school if one of the students in the same school had developed TB and 7.6% were not willing to nurse and care TB patients at home are the direct reflection of the stigmatization of TB patients. Relatively larger proportions of rural residents shun TB patients than urban residents. This is perhaps associated with having relatively poor knowledge about PTB and negative attitude towards TB as well as poor access to information by the rural respondents which had a significant association with level of education. Similar findings were highlighted in the study in Pakistan [28]

More urban residents had positive attitude towards TB than rural residents and the attitude differences in urban and rural respondents may be connected with their differences in knowledge about PTB transmission and educational status differences. In this study, 77.5% of respondents correctly knew the routes of transmission of TB; nonetheless, still there are findings that show possibility to ostracize TB patients (stigma). In other studies, even among people with relatively good knowledge of TB transmission and transmissibility, however, the perceived risk of transmission can lead to stigmatization and isolation of individuals with TB. In areas of high HIV prevalence, where HIV and TB co-infection is common, the link between the two diseases has contributed to the stigmatization of TB. TB is perceived as a marker for HIV positivity; therefore, HIV-associated stigma is transferred to TB-infected individuals [21]

Among all the respondents, 143(11.3%) of them had cough of two weeks or more duration. Among 143 (TB suspects), a bit higher than half (58.7%) preferred to seek

treatment and the rest 59(41.3%) did not so. Eight (5.5%) of the respondents had previous history of PTB.

Among 83(58.7%) sick respondents (TB suspects) who determined to seek treatment, 55(66.3%) sought treatment at medical facilities (positive treatment seeking).

Among 83(58.7%) sick respondents (TB suspects) who determined to seek treatment, 55(66.3%) sought treatment at medical facilities (positive treatment seeking) and the rest 27(33.7%) preferred at Holy water and traditional healers. Besides, Among 143 prolonged coughers, 59 (41.3%) of them never sought treatment at all. Hence, 67 (49.3%) did not seek treatment at medical facilities. In a similar studies conducted in Amhara region in health seeking action, of the total 604 (60%) TB suspects sought health care from medical health providers [13]

The differences in knowledge, attitude and other socio-demographic characteristics/factors like educational status, income level, area of residence etc. Place males in more favored and better socio economic status than females [13, 16]. While taking medical health providers visit as an important variable to indicate positive treatment seeking, however, the analysis result showed that 35(45.4%) women (AOR = 2.139 (0.953, 4.799), p= 0.065 were unexpectedly found to be more likely to visit a medical health provider than 21(32.3%) men. This may be due to more sick female respondents received advice to seek treatment than males. In case, the current existing health extension program might be working on different packages, emphasis could be offered to maternal and child health and the female HEWs might have better contact with women /females since most women in the study groups were house wives and shoulder the responsibilities at house hold level so that provide better opportunity for closer discussion with HEWs on the maternal and child health issues during their house to house visit.

Similarly, the result from the in depth interview with the HEWs revealed that HEWs thought that Women and children are the most vulnerable groups to pulmonary TB than other segment of the population and emphasized that they are giving priority in counseling and advising mothers to prevent the disease.

In a similar study conducted in China on gender differences in TB, More women than men sought healthcare for the current prolonged cough with a significant gender difference (women 79.2% vs. men 58.6%, $P = 0.005$). However, men preferred to visit upper level health facilities first, whereas women preferred to visit lower level health facilities first. [16]

Though the overall treatment seeking practices of females were better than males, but medical facilities charging relatively more costs like hospitals and private health facilities were sought by males than females; however, the non medical treatment options such as holy water and traditional healers were sought by females than males and this probably be associated with the low income status of females or other spiritual or traditional reason. In studies conducted in Gambia, health workers acknowledged that the use of traditional healers before medical services was widespread. Some felt that women use traditional healers more due to stronger traditional beliefs, women are more concerned about those kinds of things than men. [16, 26]

In this study, 26(44.8%) respondents from relatively more crowded households had better treatment seeking practice than respondents from HHs with ≤ 5 members and this might be owing to an additional positive influence or advise for patients to initiate seeking for available treatment options. In a study conducted on treatment seeking practices of TB patients in S. Africa suggested that people who came from larger households have significantly shorter patient delays and a factor potentially related to the substantial influence of family members in motivating health seeking behavior.[18]

Respondents with longer duration of cough are reluctant to seek treatment than coughers with relatively shorter duration of cough and this would result in treatment seeking deliance and this has provokes further infectiousness of the disease in the community. There are similar findings in a study conducted in Ethiopia, Amhara region. [13]

Regarding the reasons for not preferring to consult to the services, (54.2%) of the respondents mentioned that symptoms were not serious and this was mentioned by more males than females. Besides, 19 (32.2%) of respondents mentioned that task

over burden is their reason to halt them from seeking treatment and where by more males than females were busier to take their treatment. Financial constraints were mentioned by 30.5% of respondents and relatively more females than males in rural area had financial reasons to refrain from the service. These findings are more or less similar to the study findings conducted in Ethiopia and Chnina. [13, 16]

20. Strength and Limitation of the study

Strength

1. This thesis tried to assess possible factors affecting the pulmonary TB case detection both from the facility and community sides.
2. Observations of laboratory unit was made by most experienced laboratory technologists from regional reference laboratory
3. Slides rechecking or external quality assurance at regional reference laboratory performed to strengthen further identification of the gap in relation to quality of AFB test

Limitations

- The sputum samples from TB suspects were not collected and taken to the regional laboratory for AFB testing to know the PTB prevalence due to financial constraint.
- Discordant slides were not being re read at central reference laboratory at national level for further analysis of discordants and concordants.

21. Conclusion

There is a wide knowledge gap among the community about PTB. The community still had negative attitude toward pulmonary TB. Moreover, there is even low treatment seeking practices of sick patients and about three quarter of the prolonged coughers had either negative treatment seeking practice or they did not seek treatment at all. About Half of the health workers unable to make diagnosis of PTB+ based on the available two AFP positive results unless additional investigation is presented which results in wrong diagnosis of PTB and still there is an indication for high false negativity rate and implicates problems related to staining and smearing which end up with wrong diagnosis of PTB. Still there are TB suspects in the community who need to be identified and referred. All the above findings reflect the pulmonary TB case

detection was affected by the poor treatment seeking practice of the community, the diagnostics capacity of HWs and laboratory technicians AFB test performance and poor active detection and referals of TB suspects.

22. Recommendation

To the RHB, ZHD, Woreda Health Office and Regional laboratory heads or officials and all levels service providers as per their specific concern

- Tailored and well designed health education should be given to the general public to improve the knowledge and attitude of the community in relation to TB through effective communication and communication for change in behavior and at health facility level and at school (school health education should comprise TB) as well as onsite training on tuberculosis should be offered to health workers to improve their diagnostic skills on tuberculosis and qualiy sputum smearing and staining skills of lab technicican on AFB detection.
- Both a combined active and passive TB case detection strategies or approach should be applied effectively through an effective community TB care inititative and quality facility based AFB test detection and diagnosis should be effceted.
- The Orthodox Church priests and traditional healers should be addressed and mobilized in advising and referals of prolonged coughers to the nearby health facilities. Or traditional healers should be linked with the existing health extension service programs or to the western medical system interms of referal system so as to improve the health seeking action of prolonged coughers or active TB case detection.

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Addis Continental Institute of public health a joint collaboration
With University of Gondor

QUESTIONNAIRE ON

Assessment of factors affecting the Pulmonary TB Case Detection and other factors attributable to Low pulmonary TB case Detection at facility and community level in West Gojjam zone, Amhara region

01. Region_____ *02.* ***Zone***_____

03. ***Woreda***_____ *04.* ***Name of the kebele***_____

05. ***Questionnaire identification number***___

INTRODUCTION:

My Name is _____. I came from _____. I am the member of the research team of the Addis Continental Institute of Public health with a joint collaboration of University of Gondor, and the ANRHB. I would like to inform you that you and I will have a short discussion concerning this study. Just before going to our discussion, you are requested to listen very carefully to what I am going to read you about the purpose and general condition of the study and tell me whether you agree or disagree to participate in this study.

Consent form

The purpose of this study is to assess the perception about and health seeking behavior of the community/TB suspects among the age of 18 years and above living in this and the neighboring woreda and kebeles . Of your peers, you are selected to be one of the participants in the study. The study will be conducted through interviews. We are asking you for a little of your time, about thirty to - forty five minutes, to help us in this study. In the end, it is hoped that the information you give us could help to design appropriate intervention to improve the TB case detection rate and enhance TB prevention and control health services program for this woreda and other similar setups. The interview involves intimate and private life questions. So private setting is needed in which you and the interviewer will carry out the interview. We would like to assure you that this privacy should strictly be maintained throughout. A code number will identify every participant and no name will be used. Your responses to any of the questions will not be given to anyone else and no reports of the study will ever identify you. If a report of results is published, only information about the total group will be appeared and reflected.

The interview is voluntary. Your participation/ non-participation, or refusal to respond to the questions will have no effect now or in the future on services that you or any member of your family may receive from any service providers

Are you willing to participate in this study?

1. [ ] Yes. 2. [ ] No

_____ (Signature of the interviewer certifying that informed consent has been given verbally by the respondents).

Addis Continental Institute of public health a joint collaboration

With University of Gondor

QUESTIONNAIRE ON

Assessment of factors affecting the Pulmonary TB Case Detection and other factors attributable to Low pulmonary TB case Detection at facility level in West Gojjam zone, Amhara region

01. Region_____*02.* ***Zone***_____

03. ***Woreda***_____ *04.* ***Name of Health Centre***_____

05. ***Questionnaire identification number***___

INTRODUCTION:

My Name is _____. I came from _____. I am the member of the research team of the Addis Continental Institute of Public health with a joint collaboration of University of Gondor, and the ANRHB. I would like to inform you that you and me will have a short discussion concerning this study. Just before going to our discussion, you are requested to listen very carefully to what I am going to read you about the purpose and general condition of the study and tell me whether you agree or disagree to participate in this study.

Consent form

The purpose of this study is to assess the health professionals skills on pulmonary TB case detection working in this HC and other similar HCs found in the same or neighboring woredas. Of your peers, you are selected to be one of the participants in the study. The study will be conducted through in depth interviews. We are asking you for a little of your time about sixty minutes to help us in this study. In the end, it is hoped that the information you give us could help to design appropriate intervention to improve the TB case detection rate and enhance TB prevention and control program for this woreda and other similar setups. The interview involves practical, basic and scientific questions focusing on the knowledge about tuberculosis as per the standard. So private setting is needed in which you and the interviewer will carry out the interview. During the interview, we are going to use tape recorder. This will help us maximize the chance of remembering every data provided by the interviewee. We would like to assure you that this privacy should strictly be maintained throughout. A code number will identify every participant and no name will be used. Your responses to any of the questions will not be given to anyone else and no reports of the study will ever identify you. If a report of results is published, only information about the total group will be appeared and reflected.

The interview is voluntary. Your participation/ non-participation, or refusal to respond to the questions/ observations will have no effect now or in the future on services that you are giving in the facility.

Are you willing to participate in this study?

1. [ ] Yes. 2. [ ] No

_____ (Signature of the interviewer certifying that informed consent has been given verbally by the respondents)

Addis Continental Institute of public health a joint collaboration

With University of Gondor

QUESTIONNAIRE ON

Assessment of factors affecting the Pulmonary TB Case Detection and other factors attributable to Low pulmonary TB case Detection at facility level in West Gojjam zone, Amhara region

01. Region_____ ***02. Zone***_____

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INTRODUCTION:

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Consent form

The purpose of this study is to assess the health professionals skills on pulmonary TB case detection working in this HC and other similar HCs found in the same or neighboring woredas. Of your peers, you are selected to be one of the participants in the study. The study will be conducted through observations. We are asking and observing you for a little of your time, about forty five to sixty minutes for every observation while smearing and patient handling is done so as to help us in this study. In the end, it is hoped that the information you give us could help to design appropriate intervention to improve the quality of laboratory AFB test and smear positive pulmonary TB case detection so that enhance TB prevention and control program for this woreda and other similar setups. The observation involves practical, basic and scientific questions focusing on the knowledge and practices on the sputum smearing technique and quality of laboratory services offered by laboratory technicians as per the standard. So private setting is needed in which you and the observer will carry out the interview. We would like to assure you that this privacy should strictly be maintained throughout. A code number will identify every participant and no name will be used. Your responses to any of the questions will not be given to anyone else and no reports of the study will ever identify you. If a report of results is published, only information about the total group will be appeared and reflected.

The observation is voluntary. Your participation/ non-participation, or refusal to respond to the questions/ observations will have no effect now or in the future on services that you are giving in the facility or laboratory. Are you willing to participate in this study?

1. [ ] Yes. 2. [ ] No

_____ (Signature of the interviewer certifying that informed consent has been given verbally by the respondents.

STUDY TOOLS questionnaire, observation checklist, interview guide in English.

Section 1: The background Characteristics of the community/TB suspects

No	Questions	Coding classification/response	Skip
101	sex of the respondent	1. Male 2. Female	
102	How old were you at your last birthday?	1. Age in completed years _____ 88. Don't know 99. No response	
103	What is your religion?	1. Orthodox 2. Muslim3. Protestant 4. Catholic 5. No religion 6. Other (specify)----------	
104	What is your current Marital Status	1. Married 2. Unmarried3. Separated 4. Divorced 5. Widowed 6. Others (specify) ------ 99. No Response	
105	To which ethnic group do you belong?	1. Amhara 2. Oromo 3. Tigray 4. Others (specify)_____99. No response	
106	What is your current educational status?	1. Cannot read and write 2. Read and write 3.Grade 1-6 4.Grade 7-8 5.Grade 9-12 6.College and above	
107	What is your current occupation?	1. Jobless 2. Daily Laborer 3.Government employee 4.Merchant 5. Farmer 6. Driver 7. House wife 8. Student 9.Pensioned 10.Others(Specify)_____	
	What is your average household income per month?	1. No income 2. 1 - 100 Birr 3. 101-300 Birr 4. 301-500 Birr 5. 501-1000 Birr 6.More than 1000Brirr 88. I do not Know 99.Refuse	
109	How many residents are living in your house at least for the last six months?	1.Less than four 2.Four to five 3.Greater than five	

Section 2: the Knowledge, Opinions and Attitudes questions on TB

201	Have you ever heard about tuberculosis?	1. Yes 2. No 88. I don't know 99. No response	
202	Where do you get information about TB for the first time?	1.Spouce /relative 2.TB patient 3.Mass media (Radio, TV etc) 4.Medical personnel 5.School education 6.Other (Specify)	
203	Have you ever afraid of being infected with TB?	1. Yes 2. No 88. I don't know 99. No response	
204	What is the primary cause of pulmonary tuberculosis?	1.Bacteria 2.Poor sanitation 3.Malnutrition 4.HIV/AIDs 88.I Don't know 99.No response	
205	What are the major routes of transmission of tuberculosis from diseased to healthy persons?	1.Coughing/sneezing 2.ingesting unpasteurized milk 3.Hand shaking 4.Mother to child during labor or pregnancy 5.Breast feeding 6.Inherited from parents to child 7.Through sexual contact	
206	What are the main symptoms /signs suggestive of tuberculosis?	1.Cough of two weeks or more period 2.Chest pain 3.Loss of weight 4.Night sweat 5.Bloody sputum 88.Don't know 99.Noresponse	
207	What are the possible modalities of prevention of pulmonary tuberculosis	1.Proper sanitation 2.Vaccination 3.Isolation from the disease 88.Don't know 99.No response	
208	Who is at risk of getting TB?	1. The poor 2. Rural people	

		3. Those who live with TB patients 4. Person with HIV 5. Smokers/Alcoholics 88. Don't know 99.Noresponse	
209	From where can someone get TB?	1. TB patients 2. Health personnel 3. Polluted air 4. Contaminated water 88. I don't know 99. No response	
210	If you found out that you had TB, would you tell to others?	1. Yes 2. No 88. I Don't know 99. No response	
211	What is your satisfaction with modern treatment for tuberculosis?	1. Good 2. Moderate 3. Poor 4. Other(Specify)_____	
212	Do you know anyone who is infected with TB or Who has died of TB?	1. Yes 2. No 88. I Don't know 99. No response	
213	Is TB a curable disease?	1. Yes 2. No 88. I Don't know 99. No response	
214	Can a health looking person be infected with TB?	1. Yes 2. No 88. I Don't know 99. No response	
215	Do all TB patients are infected with HIV?	1. Yes 2. No 88. I Don't know 99. No response	
216	Can one get TB by sharing a meal with someone who is infected with any TB?	1. Yes 2. No 88. I Don't know 99. No response	
217	Can one get TB by shaking hands and by wearing clothes living with TB?	1. Yes 2. .No 88. I Don't know 99. No response	

Section 3: stigma and discrimination experiences of the community/TB suspects

Questions to assess the stigma and discrimination experiences of the community/TB patients

301	Do you think people living with TB should be quarantined?	1. Yes 2. No 88. I don't know 99. No response	
302	Would you be willing to share a meal with a person you knew had TB?	1. Yes 2. No 88. Don't know 99. No response	
303	Do you think TB is a curse from God ''super natural power''	1. Yes 2. No 88. Don't know 99. No response	
304	Would you say you feel afraid of people affected with or suffering from TB	1. Yes 2. No 88. Don't know 99. No response	
305	Do you feel something unusual when you see TB patients?	1. Very much 2. Some what 3. Not sure 4. Little 5. Not at all	
306	Do you hate TB patients because of their illness?	1. Very much 2. Some what 3. Not sure 4. Little 5. Not at all	
307	People with TB should be legally separated from others to protect public health?	1. Strongly agree 2. Agree 3. Indifferent 4. Disagree 5. Strongly disagree	
308	The names of people with TB should be made public so that others can avoid them?	1. Strongly agree 2. Agree 3. Indifferent 4. Disagree 5. Strongly disagree	
309	Are you willing to participate in religious ceremony with TB patients?	1. Yes 2. No 3. I am not sure 99. No response	
310	Would you be willing to continue your friendship if you knew that your close friend had TB on treatment?	1. Yes 2. No 3. I am not sure 99. No response	
311	Suppose you had a young child who was attending school where one of the students was known to have TB, would you send your child to another school or	1 Leave the child in the same school	

	leave him in the same school?	2. Send the child to another school 3. I am not sure 99. No response	
312	Suppose you had working place where one of the men working with you had TB, would you be willing to work with him or her in the same work place?	1. Yes 2. No 3. I am not sure 99. No response	
313	Suppose you found out that the owner of a small neighborhood grocery store where you like to shop had TB, would you continue to shop there or go someplace else to shop?	1. Continue to shop there 2. Go some place else 88. Don't know 99. No response	

Section 4: Health seeking behavior experiences of the community.

Questions to assess the health seeking behavior and accessibility to treatment service for TB by the community

401	Do you have cough of two weeks or more periods?	1. Yes 2. No 88. I don't know 99. No response	If No, skip to Qn #403
402	If yes, For how long? _____ Days	1.Two weeks or 14 Days 2.More than Two up to o three weeks 3.More than three weeks 88.I don't know 99. No response	Skip to Qn# 405
403	Have you ever experienced TB disease before in your life?	1. Yes 2. No 88. I don't know 99. No response	If Yes, skip to Qn #405
404	Assume that you have cough for two weeks or more duration, then …..(go to the next Qn # 405)		
405	Did you receive treatment for the illnesses? Or Have you determined to seek treatment for your illness now?	Yes 2. No 88. I don't know 99. No response	If no, skip to Qn#409
406	If yes, Where did you receive or prefer to get the treatment for your illness?	1.General hospital 2.Health center 3.TB center 4.Self medication	

		5. Private health facility 6.Tradtional healer 7.holy water 8.Witch doctors 9. Other (specify) _____	
408	If treatment is received from more than one treatment source, from which did you receive the first treatment? Circle only one	1.General hospital 2.Health center 3.TB center 4.Self medication 5. Private health facility 6.Tradtional healer 7.holy water 8.Witch doctors 9. Other (specify)	
408	How long does it take you to reach the health facility?	1. < 1 hour 2. 1-2 hours 3.> 2 hours 88. don't know 99.No response	
409	What are the means of / modes of transportation to reach at the health facility?	1. On foot 2. Mule 3. Public transportation	
410	Why do you prefer for consulting these facilities?	1. Easily accessible 2.Having Confidence in obtaining cure 3.Services are available 4. Services are free 5.Advised by some body 6.The only services are available there(no other option) 88.I don't know 99.No response	
411	Why you don't prefer for consulting these services?	1.Unavailabity of services 2.Far distance from facility 3.Economic constraints 4.Symptoms are not serious	

		5.Fear of diagnosis 6.Fear of social isolation 7.Long waiting time 8.poor quality of health service 9.Being busy 88.I don't know 99.No response	

That is the end of our questionnaire. Thank you very much for taking time to answer these questions.

We very much appreciate your help

Time at the end of the interview: __ __:__ __

Section 1: Back ground Information about the laboratory technician

Zone: _____ Woreda:_____ Date: __ __/__ __/__ __ __

Facility code: __ __ Interviewee code__ __

Facility Type: 1. HC 2.DHC

Data collector ID__ __

No	Questions	Coddling Classification	Skip
001	Record sex of the respondent	1. Male 2. Female	
002	Level of qualifications of lab technician	1. Laboratory technologist (BSc) 2. Senior lab. Technician 3. Junior lab. Technician 4. Other	
003	Trained in service refresher training in the last two or more years	1. Yes 2. No →	Qn# 004
004	Subject(s) circle that all apply	1. TB smearing 2. TB - Leprosy smearing 3. TB- HIV 4. Other	

Section 2: observation check list to assess laboratory services offered by laboratory technicians

Instruction: Record what you hear or see, don't intervene

Beginning of observation: Time: __ __:__ __

Interruption time1:__ __:__ __ Resuming timeT1:_____

Interruption time2:__ __:__ __ Resuming timeT2:_____

Data collector's code__ __

Sample code__ __

Slide Code__ __ __ __

No	Questions	Response	Skip
020	Does the laboratory service have separate or its own room?	1.Yes 2.No	
021	Is the laboratory unit is well ventilated?	1.Yes 2.No	
022	What type of microscope does the laboratory technician have been using?	1.Monocular 2.Binocualar 3.Electrical 4.If both specify(_____)	
023	What are the sources of light for the microscope?	1.Sunlight 2.Elecetricity	
024	Is there any reagent in use that gets expired in the laboratory unit?	1.Yes 2. No	
025	Does the lab technician properly instruct the patient investigated for sputum?	1. Yes 2. No	
026	Does the laboratory technician instruct the patient on how to bring spot sputum		
	a. Maintain confidence over the patient and mention reason for examination	1. Yes 2. No	
	b. Explain to the patient how to cough	1. Yes 2. No	
	c. Advising the patient to rinse his/her mouth if he has chewed food before sputum collection	1. Yes 2. No	

027	Does the lab technician provide standardized sputum cup?		
	a. Transparent	1. Yes 2. No	
	a. Screw tight lid	1. Yes 2. No	
	b. Wide mouthed with (50-60 ml) capacity	1. Yes 2. No	
028	Does the lab technician properly instruct for morning - spot specimen the next day?	1. Yes 2. No	
029	Does the laboratory technician provide the suspect sputum cup immediately following the spot specimen has been received?	1. Yes 2. No	
030	Does the lab technician advise the patient to hold the sputum close to his lip and spit in to it?	1. Yes 2. No	
031	Does the laboratory technician checked for any possible contamination of sputum cup?	1. Yes 2. No	
032	Does the laboratory technician carefully wipe it off with a piece of tissues papers soaked in disinfectant and incinerate the paper?	1. Yes 2. No	
033	Does the patient fail to succeed in producing an adequate expectoration?	1. Yes 2. No……..→	If No Skip to Qn# 034
034	Does the lab technician attempted to take action		
	a. Asking the patient to deeply breath in & out several times	1. Yes 2. No	
	b. Encouraging patient if not too sick to do mild physical exercise like running for couples of minutes or sitting and standing in rapid setting	1. Yes 2. No	
	c. For children , let them lie down on belly on bench 40 degree angle with feet up to elicit cough reflex	1. Yes 2. No	
	d. A gentle percussion of the chest while the patient in a reclining position	1. Yes 2. No	
035	Does the lab technician receive adequate /sufficient quantity of sputum (3-5ml)?	1. Yes 2. No	

036	Is the quality of the sputum is properly maintained?	1. Yes 2. No	
	a. Purulent or muco purulent	1. Yes 2. No	
	b. A few streaks of blood in the sputum	1. Yes 2. No	
	c. Abundant blood in the sputum (Heamoptysis)	1. Yes 2. No	
	d. Specimen containing saliva only	1. Yes 2. No	
037	Does the laboratory technician wash hands with soap and water after closing the sputum container securely?	1. Yes 2. No	
038	Does the laboratory technician put the slides in the safe slide storages?	1. Yes 2. No	
039	Does the lab technician labels the laboratory ser. No and the specimen Number on the sputum cup containing spot specimen with a marker on the cup and on the lid?	1. Yes 2. No	
040	Does the laboratory technician use new slide from the slide pocket for smearing?	1. Yes 2. No	
041	Does the laboratory technician label the serial no. and specimen order no. on the frosted end of the slide?	1. Yes 2. No	
042	Does the laboratory technician carefully check the laboratory serial no. and specimen order no. on the sputum container and the slide before smearing?	1. Yes 2. No	
043	Does the laboratory technician use wooden applicator stock for smearing?	1. Yes 2. No	
044	In the absence of cotton applicator, stick or wire loop, does the laboratory technician use match stick or local dry grass for smearing?	1. Yes 2. No	
045	Does the laboratory technician use the broken end of two pieces of wooden applicator to break up, select and pick up opaque, grayish or yellowish purulent large particles of the sputum and firmly press the slide perpendicularly and move in small concentric circles?	1. Yes 2. No	
046	Does the laboratory technician prepare the smear at the center of the slide with smear size with the following appropriate condition		

	oval shape	1.Yes 2.No	
	Evenness	1. Yes 2. No	
	Size (3 cm in length and 2 cm in wide)	1.Yes2.No	
	Thickness	1. Yes 2. No	
047	Does the laboratory technician prepare the smear near the spirit lump at the safe zone (15 cm around the flame)?	1. Yes 2. No	
048	Does the laboratory technician use separate stick for each specimen?	1. Yes 2. No	
049	Does the laboratory technician use large amount of smears which could lead to false negative result since AFB is scattered?	1. Yes 2. No	
050	Does the laboratory technician dry the prepared slides in the air for about 15-30 minutes? Or alternatively	1. Yes 2. No	
051	Does the laboratory technician dry the prepared slides using sun light or extreme flame heat?	1. Yes 2. No	
052	Does the laboratory technician pass over the dried slide three times over the top of the flame of Bunsen-burner or spirit of flame using a portable methyllated spirit burner with wick or cotton wool soaked in spirit known as fixation taking 3-5 minutes?	1. Yes 2. No	
053	Does the laboratory technician hold the smear, prior to staining, about 4-5 cm over a piece of printed paper?	1. Yes 2. No……→	If No, Skip to Qn.#053
054	If yes , (confirm the status and encircle)	1.letters could not be read / seen (too thick) 2.Letters could be easily seen(too thin) 3.Letters slightly seen(neither too thick nor too thin)	
055	Does the laboratory technician arrange the slides of same batch on the slide rack with appropriate arrangement?	1.Yes 2.No	
056	Does the laboratory technician filtered the 1% carbol fuchsin through filtered paper before covering surface of slides with ZN 1% carbol fuchsin ?	1.Yes 2.No	

057	Does the laboratory flood slides with carbol fuchsin for five (5) minutes?	1.Yes 2.No	
058	Does the laboratory technician use splitting lump for heating of carbol fuchsin?	1.Yes 2.No	
059	If no, what other alternative does he use?	1.Alchol swap 2.other (_____)	
060	Does the laboratory technician rinse each slide individually in a gentle stream of running water(tap water or boiled water with a dropper) until all free stain is washed away ?	1.Yes 2.No	
061	Does the laboratory technician decolorize the smear using 3% acid alcohol for 3 minutes until the solution cleared?	1.Yes 2.No	
062	Does the laboratory technician flood smear with 0.1% methylene blue counter stain for 1 minute?	1.Yes 2.No	
063	Does the laboratory technician tilt and place the slide on the rack to dry in the air not under the sun?	1.Yes 2.No	
064	Does the laboratory technician examine stained smears with technique of reading through?	1.Horizontal scanning 2.ZIG-ZAG scanning 3.Not sure	
065	Does the laboratory technician examine 100 fields in five minutes?	1.Yes 2.No	
066	Does the laboratory technician follow/ utilize the standard reporting scale while reporting smears?	1.Yes 2.No	
067	Does the laboratory technician record results in the laboratory registers and request form for sputum examination immediately after reading smears?	1.Yes 2.No	
068	Is red pen used to record positive results in the laboratory registry?	1.Yes 2.No	
069	Does the laboratory technician store all slides in slide boxes in the order they were recorded in the laboratory register?	1.Yes 2.No	
070	What was the AFB test result?	1.positive (+) 2.Negative (-) 99.Not known	

That is the end of our Observation. Thank you very much for taking time to answer these questions.

We very much appreciate your help

Time at the end of the interview: __ __:__ __

Section 3 the back ground Information about health workers at OPDs.

Zone: _____ Woreda:_____

Date: __ __/__ __/__ __ __ __ Facility code: __ __

Facility Type: 1. HC 2.DHC

Data collector ID__ __

No	Questions	Coddling Classification /Response	Skip
051	Record sex of the respondent	1. Male 2. Female	
052	Level of qualifications of respondent	1.General practioner (GP) 2. Health officer (HO) 3.Clinical Nurse (BSc) 4. Clinical nurse (Diploma). 5.Juniour clinical Nurse(certificate) 6. Other	
053	Trained in service refresher training in the last 4 years	1. Yes 2. No →	To Qn# 005
054	Subject(s) circle that all apply	1. TB 2. TB - Leprosy 3. TB- HIV 4. Other	

Section 4 the back ground Information about health extension workers at health posts.

Zone: _____ Woreda:_____

Date: __ __/__ __/__ __ __ __ Facility code: __ __

Facility Type: 1. HP 2. Clinic 3. Developing HC

Data collector ID__ __

No	Questions	Coddling Classification /Response	Skip
060	Code of interviewee	__ __ __ __	
061	Level of qualifications of respondent	1.HEW 2.Other (specify)_____	
062	Trained in service refresher training in the last 4 years	1. Yes 2. No →	005
063	Subject(s) circle that all apply	1. TB 2. TB - Leprosy 3. TB- HIV 4. Other	

Interview Guide for in depth Interview of health workers to assess their knowledge and practices on tuberculosis.

THEME 1. About tuberculosis

A1. What is Tuberculosis?

A2. What does it Cause?

A3. What are the routes of transmission?

A4. What are the signs and symptoms suggestive of TB?

A6. What are the types of tuberculosis?

A6. Whom does mainly tuberculosis affect?

A7. What are aggravating factors for transmission of TB?

A8. How do you define TB case? TB suspect?

A9. What are the types of TB cases according to the standard definition stated in the national TBL guide lines for Ethiopia?

THEME 2. Making high index of suspicion

B.1 When do you make a high degree of suspicion for TB when you examine your patient (while history taking)?

THEME 3. Diagnosis of Tuberculosis

C1. How do you diagnose pulmonary TB on the basis of clinical findings?

C2. How do you diagnose pulmonary TB on the basis of laboratory findings?

C3. How do you diagnose pulmonary TB on the basis of x- ray findings?

THEME 4. About the treatment of Tuberculosis

D1.How many treatment regimens are stated and used in the national TBL Prevention and Control guide line for Ethiopia?

D2. What are the major drugs currently in use for treatment of TB patients in different regimens?

D3.How do you categorize a patient in each regimen by giving an example.

THEME5. About the prevention modalities of pulmonary TB

E1.How can we prevent tuberculosis?

E2.How can we know the presence of tuberculosis infection in a person without the presence of clinical signs and symptoms suggestive of pulmonary tuberculosis?

THEME 6. About the Pulmonary TB case detection rate.

F1. Why do you think the annual smear positive pulmonary TB case detection rate is lower than the expected estimated annual WHO estimates (70%)?

F2. What would be the consequences on the community if the case detection rate remains getting lower or not improved?

THEME 7. About the public health nature of TB

G1. Is tuberculosis a major public health problem in Ethiopia in general and in Amhara region in particular?

G2. If so, how or why?

THEME 8.About the challenges faced.

H1. What are the possible challenges you faced during the diagnosis and treatment of TB?

THEME 9. Recommendation.

I1. What are your recommendations to improve the case detection rate?

Interview Guide for in depth Interview of Health extension workers to assess their knowledge and practices on tuberculosis

THEME 1. About tuberculosis
A1. What is Tuberculosis?
A2. What does it Cause?
A3. What are the routes of transmission?
A4. What are the signs and symptoms suggestive of TB?
A6. What are types of tuberculosis?
A6. Whom does mainly tuberculosis affect?
A7. What are aggravating factors for transmission of TB?
A8. How do you define TB case? TB suspect?
A9. What are the types of TB cases according to the standard definition stated in the national TBL guide lines for Ethiopia

THEME 2. Making high index of suspicion
B.1 When do you make a high degree of suspicion for TB when you examine your patient (while history taking)?
B.2 what were you doing if you have found a suspect for tuberculosis

THEME 3. Diagnosis of Tuberculosis
C1. How do you diagnose pulmonary TB on the basis of clinical findings?
THEME 4. About the treatment of Tuberculosis
D4 Have you ever given or are you giving treatment for tuberculosis before or now

THEME 5 About the prevention modalities about tuberculosis
E1. How can tuberculosis be prevented ?
E2. How can you know the presence of TB infection in any one who has no clinical signs and symptoms suggestive of tuberculosis?
E3.What activities have been conducted to date in the identification of TB suspects at community level

THEME 6. About the Pulmonary TB case detection rate.
F1. Why do you think the annual smear positive pulmonary TB case detection rate (26%) is lower than the expected estimated annual WHO estimates (70%)?
F2. What would be the consequences on the community if the case detection rate remains getting lower or not improved?
F3.What are you doing now at community level in the detection / identification and referals of the suspects for tuberculosis.

THEME 7. The public health nature of TB

G1. Is tuberculosis a major public health problem in Ethiopia in general and in Amhara region in particular?

G2. If so, how or why?

THEME 8. About the challenges faced while implementing the program .

H1. What are the possible challenges you faced in the detection, the diagnosis and treatment of TB?

H2. What measures did you take to resolve the problems?

THEME 9. About the Recommendations offered.

F1. What are your recommendations to improve the case detection rate?

That is the end of our questionnaire. Thank you very much for taking time to answer these questions We very much appreciate your help

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Time at the end of the interview: __ __:__ __

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ቃለ መጠይቅ ከመጸደረጉ በፊት የተሳ ፈዎችን ፈቃደኝነት ማረጋገጫ ቅጽ

ይህ መጠይቅ በምዕራብ ጐጃም ዞን መስተዳደር ውስጥ ባሉት ጤና ጣቢያዎች ለሳንባ ነቀርሳ/ቲቢ በሽ ህክመናቸውን በማካሄድ ላይ የሚገኙትን የሣንባ ነቀርሳ በሽተኞች ሕሙማን ልየ ላይ ያለውን ሂደት ለማሻሻል

መሰያ

01 ክልል ---------- *02* ዞን ---------- *03* ወረዳ ----------

04 ጤና ጣቢያ ስም ---------- *05* የመጠይቁ መለያ ቁጥር ---------

ሰላም ንደምን አሉ ኔ አቶ/ወ/ሮ/ወ/ት/ዶ/ር ---------- ባላለሁ፡፡ ዚህ የመጣሁት ይህንን ጥናት ከሚያካሂዱት አዲስ ኮንትኔን ል የህብረተሰብ ጤና ኢንስቲትዮት ና ጎንደር ዩኒቨርስቲ የህክምና ፋኩልቲ የህብረተሰ ጤና ትምህርት ክፍል የአማራ ብሔራዊ ክልላዊ መንግስት ጤና ጥበቃ ቢሮ አማካኝነት በመሠራት ላይ ለሚገኘው ሳይንሳዊ ጥናት መረጃ አሰባሳቢ ቡደን አባል ሆኜ ነው፡፡

የጥናቱ ዋና ዓላማ የሳንባ ነቀርሳ /ቲቢ በሽተኞች የሣንባ ነቀርሣ በሽተኞች/ ሕሙማን ልየ ላይ ህሙማን ያላቸውን ውቀት ግንዛቤና አመለካከት በማጥናት ከልየ ው ጋር የሚኖረውን ተያያዥ ጉዳዮችን ለሚመለከ ቸው ክፍሎች መረጃ መስጠት ነው፡፡

የስምምነት ማረጋገጫ

በቃለመጠይቁ ስምጋን አልመዘግብም መመለስ የማይፈልጉት ጥያቄ ካለ ለመመለስ አይገደዱም ቃለመጠይቁን ለመቀጠል ካልፈለጉ በማንኛውም ጊዜ ማቆም ይችላሉ ፡፡ ከ ርስዎ የሚጠበቀው የሚሰማዎትን ሃሳብ ንዲገልፁልኝ ብቻ ነው፡፡ የሚሰጡኝን መረጃ ና አስተያየት ከጥናቱ አገልግሎቱ ውጭ ለማንም በምንም ሁኔ አይገለጽም፡፡ ከ ርስዎ የምናገኘው ትክክለኛ መረጃ በጥና ችን መጨረሻ ማወቅ ስለምንፈልገው ውጤተ ከፍተኛ ጠቀማ አለው፡፡

ቃለምልልሱን ለመፈፀም የሚፈጀው ጊዜ *30* ስከ *45* ብቻ ነው፡፡

ቃለ ምልልሱን ለማካሄድ ፈቃደኛ በመሆንዎንና ጊዜዎን ስለሰጡኝ አመሰግናለሁ፡፡

የሚቀርብልዎትን ጥያቄዎች ለመመለስ ፈቃደኛ ነዎት ?

1. አዎ
2. አይደለሁም

ፈቃደኛነቱን ያረጋገጠው መረጃ ሰብሳቢ ሙሉ ስም ---------- ፊርማ ---------- መጠይቁ የተሞላበት ቀን ---------- የተቆጣጠሪው ስም ---------- ፊርማ ----------

መረጃ ሰብሳቢው የንክኝት ሰዴዳ

	ንክኝት 1	ንክኝት 2	ንክኝት 3
ቀን			
ውጤት			

ውጤት

1. የተጠናቀቀ
2. ተጠያቂው አልተገኘም
3. የተቃወመ
4. ከፊል የተመለሰ

06 የመረጃ ሰብሳቢው መለያ ቁጥር ----------

ማሳሰቢያ

- የተመረጠው/ችው ግለሰብ ለመሳተፍ ፈቃደኛ ካልሆነ/ች ቢቻል የግለሰቡን ድሜና መለያ ቁጥሩን በመሙላት የመልስ መስጫ ወረቀቱን ለሱፐርቫይዘሩ ይመልሱ፡፡
- የተመረጠው /ችው ግለሰብ ካልተገኘ ሌላ ቀጠሮ ይያዙ፡፡

በአዲስ ኮንትኔን ሀ የህብረተሰብ ጤና ኢንስቲትዮት ና ጎንደር ዩኒቨርስቲ የህክምና ፋኩልቲ የህብረተሰ ጤና ትምህርት ክፍል

ቃለ መጠይቅ ከመደረጉ በፊት የተሳ ፈዎችን ፈቃደኝነት ማረጋገጫ ቅጽ

ይህ መጠይቅ በምዕራብ ጐጃም ዞን መስተዳደር ውስጥ ባሉት ጤና ጣቢያዎች ወይም ጤና ኬላ የሚሰሩ ጤና ባለሙያዎች የሳንባ ነቀርሳ በሽ /ቲቢ በሽ ና ስለሣንባ ነቀርሣ በሽ ያላቸውን ውቀትና ግንዛቤ ለማወቅ ወይንም ጥናት ለማድረግ የተዘጋጀ መጠይቅ

መሰያ

01 ክልል ---------- 02 ዞን ----------03 ወረዳ ----------

04 ጤና ጣቢያ ስም ---------- 05 የመጠይቁ መለያ ቁጥር ----------

ሰላም ንደምን አሉ ኔ አቶ/ወ/ሮ/ወ/ት/ዶ/ር ---------- ባላለሁ:: ዚህ የመጣሁት ይህንን ጥናት ከሚያካሂዱት አዲስ ኮንትኔን ል የህብረተሰብ ጤና ኢንስቲትዮት ና ጎንደር ዩኒቨርስቲ የህክምና ፋኩልቲ የህብረተሰ ጤና ትምህርት ክፍል የአማራ ብሔራዊ ክልላዊ መንግስት ጤና ጥበቃ ቢሮ አማካኝነት በመሠራት ላይ ለሚገኘው ሳይንሳዊ ጥናት መረጃ አሰባሳቢ ቡደን አባል ሆኜ ነው::

የጥናቱ ዋና ዓላማ ተመላላሽ ካሚዎች ክፍል ውስጥ የሚሰሩ የጤና ባለሙያዎች ስለሣንባ ነቀርሣ በሽ ና የበሽ ው ተጠቂ ወይም ተጠርጣሪዎች የመለየት ውቀትና ግንዛቤ በማጥናት የጥናቱ ውጤት በቀጣይ የሣንባ ነቀርሣን በሽ ለመከላከል ና በመቆጣጠር ላይ አስተዋጽኦ ንዲኖረው ማስቻል ነው:: ከ ርስዎ ጋር የሚኖረው ጠለቅ ያለው ቃለ መጠይቅ ከ1:00 ሰዓት - 1:30 ይፈጃል::

የስምምነት ማረጋገጫ

በቃለመጠይቁ ስምዎን አልመዘግብም መመለስ የማይፈልጉት ጥያቄ ካለ ለመመለስ አይገደዱም ቃለመጠይቁን ለመቀጠል ካልፈለጉ በማንኛውም ጊዜ ማቆም ይችላሉ :: ከ ርስዎ የሚጠበቀው የሚሰማዎትን ሃሳብ ንዲገልፁልኝ ብቻ ነው:: የሚሰጡኝን መረጃ ና አስተያየት ከጥናቱ አገልግሎቱ ውጭ ለማንም በምንም ሁኔ አይገለጽም:: ከ ርስዎ የምናገኘው ትክክለኛ መረጃ በጥና ችን መጨረሻ ማወቅ ስለምንፈልገው ውጤተ ከፍተኛ ጠቀማ አለው:: በቃለ መጠይቅ ወቅት መቅረፀ ድምጽ ወይም ቴኘ እጠቀማለሁ :: ይህም የተፈረገው በቃለ መጠይቅ ወቅት የተነሱትን ሃሳቦች በሙሉ ለማስታወስ እንዲረዳ ነው ::

በዚህ ጥናት ተሣ ፊ በመሆንዎ በቀጣይ በሚሰጡት የህክምና አገልግሎት ና በስራ ዋስትናዎ ላይ ምንም አይነት ችግር አይኖረውም::

ቃለምልልሱን ለመፈፀም የሚፈጀው ጊዜ 1:00 ሰዓት ስከ 1:30 ብቻ ነው::

ቃለ ምልልሱን ለማካሄድ ፈቃደኛ በመሆንዎንና ጊዜዎን ስለሰጡኝ አመሰግናለሁ::

የሚቀርብልዎትን ጥያቄዎች ለመመለስ ፈቃደኛ ነዎት ?

1. **አዎ**
2. **አይደለሁም**

ፈቃደኛነቱን ያረጋገጠው መረጃ ሰብሳቢ ሙሉ ስም ---------- ፊርማ ---------- መጠይቁ የተሞላበት ቀን ---------- የተቆጣጠሪው ስም ---------- ፊርማ ----------

በአዲስ ኮንትኔን ሀ የህብረተሰብ ጤና ኢንስቲትዮት ና ጎንደር ዩኒቨርስቲ የህክምና ፋኩልቲ የህብረተሰ ጤና ትምህርት ክፍል

ቃሰ መጠይቅ ከመደረጉ በፊት የተሳ ፈዎችን ፈቃደኝነት ማረጋገጫ ቅጽ

ይህ መጠይቅ በምዕራብ ጐጃም ዞን መስተዳደር ውስጥ ባሉት ጤና ጣቢያዎች የሚሰሩ የላብራቶሪ ምርመራ ባለሙያዎች የሳንባ ነቀርሳ በሽ /ቲቢ በሽ ና ስለሣንባ ነቀርሣ በሽ አማጭ ተዋሲያን በምርመራ የመለየት ውቀትና ግንዛቤን ለማወቅ ወይንም ጥናት ለማድረግ የተዘጋጀ መጠይቅ

መሰያ

01 ክልል ---------- 02 ዞን ----------03 ወረዳ ---------- 04 ጤና ጣቢያ ስም ---------- 05 የመጠይቁ መለያ ቁጥር ----------

ሰላም ንደምን አሉ ኔ አቶ/ወ/ሮ/ወ/ት/ዶ/ር ---------- ባላስሁ። ዚህ የመጣሁት ይህንን ጥናት ከሚያካሂዱት አዲስ ኮንትኔን ል የህብረተሰብ ጤና ኢንስቲትዮት ና ጎንደር ዩኒቨርስቲ የህክምና ፋኩልቲ የህብረተሰ ጤና ትምህርት ክፍል የአማራ ብሔራዊ ክልላዊ መንግስት ጤና ጥበቃ ቢሮ አማካኝነት በመሠራት ላይ ለሚገኘው ሳይንሳዊ ጥናት መረጃ አሰባሳቢ ቡደን አባል ሆኜ ነው።

የጥናቱ ዋና ዓላማ በጤና ጣቢያ የላብራቶሪ ህክምና ክፍል የሚሰሩ ባለሙያዎችን የሣንባ ነቀርሳ አማጭ ተዋሲያንን ስለመለየት በሚደረግ የላብራቶሪ ምርመራ ሒደት ውስጥ የላብራቶሪ ባለሙያዎችን ውቀትና ግንዛቤ በማጥናት በቀጣይ የጥናቱን ውጤት በቀጣይ የሣንባ ነቀርሳ በሽ ልየ ን ለማሻሻል ንዲረዳ ማድረግ ነው። ከ ርስዎ ጋር የሚኖረው ምልከ ከ45፡00 ደቂቃ - 1፡00 ሰዓት ይፈጃል።

የስምምነት ማረጋገጫ

በቃለመጠይቁ ስምዎን አልመዘግብም መመለስ የማይፈልጉት ጥያቄ ካለ ለመመለስ አይገደዱም ቃለመጠይቁን ለመቀጠል ካልፈለጉ በማንኛውም ጊዜ ማቆም ይችላሉ ። ከ ርስዎ የሚጠበቀው የሚሰማዎትን ሃሳብ ንዲገልፁልኝ ብቻ ነው። የሚሰጡኝን መረጃ ና አስተያየት ከጥናቱ አገልግሎቱ ውጭ ለማንም በምንም ሁኔ አይገለጽም። ከ ርስዎ የምናገኘው ትክክለኛ መረጃ በጥና ችን መጨረሻ ማወቅ ስለምንፈልገው ውጤተ ከፍተኛ ጠቀማ አለው።

በዚህ ጥናት ተሣ ፊ በመሆንዎ በቀጣይ በሚሰጡት የህክምና አገልግሎት ና በስራ ዋስትናዎ ላይ ምንም አይነት ችግር አይኖረውም።

ቃለምልልሱን ለመፈፀም የሚፈጀው ጊዜ 1፡00 ሰዓት ስከ 1፡30 ብቻ ነው።

ቃለ ምልልሱን ለማካሄድ ፈቃደኛ በመሆንዎንና ጊዜዎን ስለሰጡኝ አመሰግናለሁ።

የሚቀርብልዎትን ጥያቄዎች ለመመለስ ፈቃደኛ ነዎት ?

1. አዎ
2. አይደለሁም

ፈቃደኛነቱን ያረጋገጠው መረጃ ሰብሳቢ ሙሉ ስም ---------- ፊርማ ---------- መጠይቁ የተሞላበት ቀን ---------- የተቆጣጠሪው ስም ---------- ፊርማ _____

የሳንባ ነቀርሣ በሽተኛ ልየ ን ለማጥናት የተዘጋጀ መጠይቅ

ክፍል 1፡ ስጠቃላይ የተጠያቂው መረጃ (ስንዴን በመክበብ ስሳይ)

ተ.ቁ	መጠይቅ	ስማራጭ መልስ	ዝርዝ
101	የተጠያቂው ፆ	*1. ወንድ 2. ሴት*	
102	ድሜዎ በዓመት ስንት ነው ?	*1. ---------- 88. አላውቅም 99. ምላሽ የለም*	
103	በአሁኑ ጊዜ የየትኛው ሃይማኖት ተከ ይ ነዎት ?	*1. ኦርቶዶክስ 2. ሙስሊም 3. ፕሮቴስ ንት 4. ካቶሊክ 5. ሌላ/ይገለጽ ----------*	
104	የጋብቻ ሁኔ ?	*1. ያገባ/ች 2. ያላገባ/ች 3. የተለያዩ/ያገቡ ሁነው ነገር ግን ከትዳራቸው ጋር የማይኖሩ/ 4. ፈት 5. ባለቤ ቸው የሞተባቸው 6. ሌላ /ይገለጽ ----------*	
105	ብሔረሰብዎ ምንድን ነው ?	*1. አማራ 2. ትግሬ 3. ኦሮሞ 4. ሌላ /ይገለጽ ---- ---------*	
106	የትምህርት ሁኔ ?	*1. ማንበብና መፃፍ የማይችሉ 2. ማንበብና መጻፍ/ማንበብ ብቻ 3. -------- ክፍል ወይም የት/ት ደረጃ አጠናቀዋል*	
107	ስራዎ ምንድን ነው ?	*1. ስራ አጥ 2. የቀን ሠራተኛ 3. የመንግስት ሠራተኛ 4. ነጋዴ 5. ገበሬ 6. ሹፌር 7. የቤት መቤት 8. ተማሪ 9. ሌላ ይገለጽ ----------*	
108	በአማካይ ወርሃዊ ገቢዎ ምን ያህል ነው	*1. ከመቶ ብር ያነሰ 2. በወር ከመቶ ስከ ሶስት መቶ ብር 3. በወር ከሶስት መቶ ብር በላይ 4. በትክክል አይ ወቅም*	
109	ቢያንስ ባለፍት ስድስት ወራት /ከዚያ / በላይ ጊዜ ውስጥ ምን ያህል የቤተሰብ አባላት በቤትዎ ይኖራሉ ?	*1. ከ4 አባላት በታች 2. ከ4-5 አባላት 3. ከ5 አባላት በላይ*	

ክፍል 2፡ ከዚህ ቀጥሎ ያሉት ጥያቄዎች ስለ ሳንባ ነቀርሳ /ቲቢ/ በሽ ያለምትን ሙቀት ስለተያዩትና ስመለካከት ይመለከታል

ተ.ቁ	መጠይቅ	ስማራጭ መልስ	ዝለላ
201	ስለ ቲቢ በሽታ ሰምተው ያውቃሉ ?	1.አዎ 2.የለም 88. አላውቅም 99. ምላሽ የለኝም	
202	ስለ ቲቢ በሽታ መረጃዎችን ከየት አገኙ?	1. ከባለቤትዎ/ከዘመድዎ/ 2. ከቲቢ በሽተኞች 3. ከብዙሃን መገናኛ /ሬድዬ ቴሌቪዥን 4. ከህክምና ባለሙያ 5. ከት/ት ቤት 6. ከሌላ /ይገለጽ/	
203	በሳንባ ነቀርሳ/ ቲቢ በሽ ለከፍ ይሆናል የሚል ስጋት ነበረዎት ?	1.አዎ 2.የለም 88. አላውቅም 99. ምላሽ የለኝም	
204	የሳንባ ቲቢ ዋነኛ አማጭ ምንድን ነው ? /አ ንብብ የሚሰጡትን መልስ ሁሉ አክብብ/	1. ባክቴሪያ /በአይን የማይታይ ጥቃቅን ጀርም/ 2. የንጽህና ጉድለት 3. የምግብ እጥረት 4. ኤች አይ ቢ /ኤድስ/ 88. መለሱን አላውቅም 99. መልስ የለኝም	
205	የሳንባ ቲቢ ከበሽተኛ ወደ ጤነኛ ሰው የሚተላለፍበት መንገዶች ምን ምን ነው?/ናቸው ? /አ ንብብ የሚሰጡትን መልስ ሁሉ አክብብ/	1. ማሳል /ማስነጠስ 2. የጥሬ ወተት መመገብ 3. በእጅ መጨባበጥ 4. ከእናት ወደ ጽንስ በእርግዝና /በወሊድ ጊዜ 5. በጡት ማጥባት 6. ከወላጅ ወደ ልጅ/በዘር/ 88.መለሱን አላውቅም	

		99. መልስ የለኝም	
206	የቲቢ በሽታ መኖሩን አመላካች የህመም ምልክቶች /ስሜቶች /ምን ምን ናቸው ?	1. ሁለት ሳምንትና ከዚያ በላይ የቆየ ሳል 2. የደረት ህመም 3. የክብደት መቀነስ 4. ማታ ማታ ማላብ /ላብ መብዛት / 5. ደም የቀላቀለ አክታ 88.መለሱን አላውቅም 99. መልስ የለኝም	
207	የሳንባ ቲቢን ለመከላከል የሚያስችሉ ተግባራት ምን ምን ናቸው ? /አ ንብብ የሚሰጡትን መልስ ሁሉ አክብብ/	1. ንጽህናን በአግባቡ መጠበቅ 2. ክትባት 3. ከበሽታው መገለል 88.መለሱን አላውቅም 99. መልስ የለኝም	
208	የሳንባ ነቀርሳ/ቲቢ በሽ ተጋላጭ የህብረተሰብ ክፍል የትኛው ይሆናል ብለው ያምናሉ ?	1. ድሀው ህብረተሰብ 2. የገጠር ህብረተሰብ 3. ከሳንባ ነቀርሳ/ቲቢ በሽ ጋር የሚኖር ሰው 4. የኤች አይ ቪ ቫይረስ ከሰውነቱ ጋር አብሮ የሚኖር ግለሰብ 5. አጫሾች/ የአልክሆል ሱሰኞች 88. መልሱን አላውቅም	
209	አንድን ሰው የሳንባ ነቀርሳ/የቲቢ በሽ ከየት ሊይዘው ይችላል ? /አ ንብብ የሚሰጡትን መልስ ሁሉ አክብብ/	1. ከቲቢ በሽተኛ 2. ከጤና ባለሙያዎች /ከጤና ተቋማት 3. ከተበከለ አየር 4. ከተበከለ ውሃ 88. አላውቀም 99. መልስ የለኝም	
210	በሳንባ ነቀርሳ/ ቲቢ በሽ መያዝዎን ለሌሎች ሰዎች በሽ ው ንዳለብዎት ይናገራሉ ?	1. አዎ 2. አልናገርም 88. አላውቅም 99. መልስ የለኝም	

211	በአዲሱ የሳንባ ነቀርሳ/ቲቢ በሽ ህክምና አሰጣጥ ርስዎ ምን ያህል ይረካሉ ?	1. ጥሩ ነው 2. በመካከለኛ ደረጃ 3. ደካማ ርካ 4. ሌላ ይገለጽ ---------- 88. አላውቅም 99. መልስ የለኝም	
212	ከሣንባ ነቀርሣ በሽ ጋር የሚኖር አሊያም በሽ የ መመ ወይንም በበሽ ው የሞተ ሰው ከአሁን በፊት ያውቃሉ ?	1. አዎ 2. የለም 88. አላውቅም 99. ምላሽ የለኝም	
213	የሣንባ ነቀርሣ በሽ ፈዋሽ መድሃኒት ያለው ይመስለዎ ል ?	1. አዎ 2. የለም 88. አላውቅም 99. ምላሽ የለኝም	
214	ከሣንባ ነቀርሣ በሽተኛ ጋራ አብሮ በመመገብ ብቻ በሽ ው ሊተላለፍ ይችላል ብለው ያስባሉ ?	1. አዎ 2. አይችልም 88. አላውቅም 99. መልስ የለኝም	
215	የሣንባ ነቀርሣ በሽተኛ ጋር ሰው ጋር በ ጅ በመጨባበጥ ወይንም የበሽተኛውን ልብሶች በመልበስ በሽ ው ወደ ጤነኛው ሰው ሊተላለፍ ይችላል ?	1. አዎ 2. አይችልም 88. አላውቅም 99. መልስ የለኝም	

ክፍል 3፡- ማግለልና መጸየፍን በተመለከተ የቀረበ መጠይቅ

ተ.ቁ	መጠይቅ	ትማሬጭ መልስ	ዝለል
301	የሣንባ ነቀርሣ ህመምተኞችን በተወሰነ ቦ አግልሎ ማስቀመጥ ተገቢ ነው ይላሉ?	1. አዎ 2. አይደለም 3. አላውቅም 4. መልስ የለኝም	
302	የሣንባ ነቀርሣ በሽ ንዳለበት ከሚያውቁት ሰው ጋር ምግብ አብረው ለመመገብ ፈቃደኛ ነዎት ?	1. ፈቃደኛ ነኝ 2. ፈቃደኛ አይደለሁም 88. አላውቅም 99. መልስ የለም	
303	የቲቢ በሽታ ከአምላክ የመጣ መቅሰፍት ነው በሚለው ሃሳብ ይስማማሉ ?	1.በጣም ስማማለሁ 2. ስማማለሁ 3. ርግጠኛ አይደለሁም 4. አልስማማም 5. በጣም አልስማማም	
304	ሣንባ ነቀርሣ ያለባቸውን ሰዎች መፍራት በተመለከተ ያለዎት ስሜት ምን ይመስላል	1. ፈራቸዋለሁ 2. አልፈራቸውም 88. አላውቅም 99. ምላሽ የለኝም	
305	የሣንባ ነቀርሣ በሽ ያለባቸውን ሰዎች በህግ ከሌሎች ሠዎች በመለየት የሌሎች ሰዎችን ደህንነት መጠበቅ ንደሚያስፈልግ ይስማማሉን ?	1.በጣም ስማማለሁ 2. ስማማለሁ 3. ርግጠኛ አይደለሁም 4. አልስማማም 5. በጣም አልስማማም	
306	የሣንባ ነቀርሣ በሽ ያለባቸውን ሰዎች የስም ዝርዝር ህዝቡ ንዲያውቀው በማድረግ በቫይረሱ ያልተጠቃው የህብረተሰብ ክፍል ከ ነዚህ ሰዎች በመራቅ ከበሽ ው መከላከል ይቻላል	1.በጣም ስማማለሁ 2. ስማማለሁ 3. ርግጠኛ አይደለሁም 4. አልስማማም 5. በጣም አልስማማም	
307	የሣንባ ነቀርሣ በሽ ያለበት አንድ ተማሪ ከሚማርበት ትምህርት ቤት ውስጥ የሚማር ልጅ /ወንድም/ ህት ወዘተ ቢኖሮዎት ትምህር ቸውን በዚያው ት/ቤት ንዲቀጥሉ ያደርጋሉ ? ወይስ ሌላ ትምህርት ቤት ያዛውሯቸዋል?	1. ዚያው አስቀጥላቸዋለሁ 2. ወደ ሌላ ት/ቤት አዛውራቸዋለሁ 3. ርግጠኛ አይደለሁም 99. መልስ የለኝም	

308	ለምግብ አገልግሎት የሚውል ጥሬ ቃ ሚገዙበት ግሮሰሪ /ሱቅ/ ባለቤት የሆነ ደንበኛዎ በሳንባ ነቀርሳ በሽ አምጭው ተህዋስያን መጠቃ ቸውን ቢያውቁ ከደንበኛዎ ቃዎችን መግዛት ይቀጥላሉ ?	1.አዎን ቀጥላለሁ 2. አልቀጥልም 88. አላውቅም 99. መልስ የለኝም	
309	ከቤተሰብዎ መካከል አንድ ሰው በሣንባ ነቀርሣ በሽ ቢጠቃ /ብትጠቃ በቤትዎ ውስጥ አስተኝተው ሊያስ ምሚቸው ፈቃደኛ ነዎት ?	1. ፈቃደኛ ነኝ 2. ፈቃደኛ አይደለሁም 3. ርግጠኛ አይደለሁም 88. አላውቅም 99. መልስ የለኝም	

ክፍል 4 የማህበረሰቡ የጤና አገልግሎት የማግኘት ፍላጐት እና ልምድን ይመለከታል

ተ.ቁ	መጠይቅ	ስማሬጭ መልስ	ዝለላ
401	ሁለት ሳምንትና ከዚያ በላይ የቆየ ሳል አለብዎት	1. አዎ 2. አይደለም 3. አላውቅም 4. መልስ የለኝም	መልሱ አይደለም ከሆነ ወደ ጥያቄ ቁጥር 403 ዝለል
402	አዎን ከሆነ ለምን ያህል ጊዜ ?	1. ለ14 ቀን ብቻ 2. ከ14 ቀን በላይ እስከ 21 ቀን 3. ከ21 ቀን በላይ 88. አላውቀውም 99. መልስ የለኝም	ወደ ጥያቄ ቁጥር 405 ዝለል
403	ከአሁን በፊት በቲቢ በሽታ ተጠቅተው ያውቃሉ ?	1. አዎ 2. አይደለም	መልሱ አይደለም ከሆነ ወደ ጥያቄ ቁጥር 406 ዝለል
404	ሁለት ሳምንትና ወይም ከዚያ በላይ የቆየ ሳል አለብዎ ተብሎ ቢታሰብ የፈውስ ህክም አገልግሎት ለማግኘት ወደ አገልግሎት መስጫ ተቋማት ለመሔድ ይወስናሉ ?	1. አዎ 2. አይደለም 88. አላውቀውም 99. መልስ የለኝም	
405	አዎን ከሆነ ለህመምዎ ፈውስ ለማግኘት ወዴት ተቋም ሊሄዱ አስበዋል ?	1. ሆስፒታል 2. ጤና ጣቢያ 3. ራስዎን በራስዎ ለማከም 4. የግል ህክምና ተቋም	መልሱ አይደለም ከሆነ ወደ ጥያቄ ቁጥር

		5. የባህል ህክምና አዋቂ 6. ፀበል 7. ባለ ውቃቤ /ቃልቻ /ቤት 8. ሌላ ካለ ይገለጽ	409 ዝለል
406	ወደ ህክምና ተቋም ለመድረስ ምን ያህል ጊዜ በግምት ይወስድብዎታል ?	1. ከ1 ሰዓት በታች 2. ከ1-2 ሰዓት 3. ከ2 ሰዓት በላይ	
407	ወደ ህክምና ተቋም ለመድረስ በምን አይነት መጓጓዣ ይጠቀማሉ ?	1. በእግር 2. በበቅሎ /በማንኛውም እንስሳ 3. በህዝብ የትራንስፖርት መገልገያ አውቶብስ	
408	ወደ ህክምና አገልግሎት መስጫ ተቋማት ሒደው ስለ በሽታው ማማከር የፈለጉት ለምንድን ነው ፡	1. በቀላሉ ወደ ተቋሙ መድረስ ስለሚችሉ 2. በሚያገኙት ህክምና እንደሚድኑ ስለሚተማመኑ 3. የአገልግሎቶች በሙሉ ስለሚገኙ 4. አገልግሎቱ በነፃ ስለሚሰጥ 5. ወደ አገልግሎቱ እንዲሄዱ በሌላው ወገን ስለተነገሩ 6. ሌላ አማራጭ ህክምና ከዚያ በስተቀር ስለሌዎት	
409	የህክምና አገልግሎት ለማግኘት ሒደው ማማከር ያልፈለጉት ለምንድን ነው ?	1. አገልግሎቱ ስለሌለ 2. ተቋሙ እሩቅ ስለሆነ 3. ዝቅተኛ የገቢ መጠን ስላለዎት 4. በሽታው አስጊ ስላልሆነ 5. በሽታው ሊገኛብኝ ይችላል ብለው ስለሚፈሩ 6. በህበረተሰቡ መገለል ይደርስብኛል ስለው ስለሚሰጉ 7. የህክምና አገልግሎት አሰጣጡ ረጅም ሰዓት ስለሚያስጠብቅ 8. የጤና አገልግሎት አሰጣጥ ጥራቱ አነስተኛ ስለሆነ 9. ከፍተኛ የስራ ጫና /መደራረብ/ ስላለብኝ ጊዜ ስለማይኖረኝ	

ጥያቄአችንን ዚህ ላይ ጨርሰናል፡፡ ጊዜዎን ሰውተው ለጥያቄአችን መልስ በመስጠት ስለተባበሩን ከልብ ናመሰግናለን፡፡

ክፍል 1፡ - የላብራቶሪ ምርመራ ባለሙያ ምልከ መከ ተያ ቅጽ

ዞን : ----------

ወረዳ :----------

ቀን: ---------/----------/----------

የተቋመ መለያ: ----------

የተቋመ አይነት : 1. ጤና ጣቢያ 2. አዳጊ ጤና ጣቢያ

መረጃውን የሚሰበስበው ባለሙያ መለያ ----------

ተ.ቁ	ጥያቄዎች	ስማሬጭ መልስ	ዝለል
002	የተጠያቂው ፆ	1. ወንድ 2. ሴት	
003	የምርመራ ባለሙያ የትምህርት ደረጃ	1. ዲግሪ ያለው የላብራቶሪ ባለሙያ 2. ዲፕሎማ ያለው የላብራቶሪ ባለሙያ 3. ሰርተፊኬት ያለው የላብራቶሪ ባለሙያ 4. ሌላ ካለ ይገለጽ ----------	
004	ባለፉት 4 ዓመት ጊዜ ውስጥ	1. አዎን 2. አይደለም ከሆነ ጥያቄ ቁጥር 005	
005	ከተዘረዘሩት ውስጥ የሚስማማውን አክብብ	1. በምርመራ የአክ ናሙና 2. የሣንባ ነቀርሣና ስጋ ደዌ በሽ 3. ሣንባ ነቅርሣና ኤች አይ ቪ ናሙና ምርመራ 4. ሌላ ካለ ይገለጽ	

ክፍል 2፡- ክፍል በላብራቶሪ ባለሙያ የሚሰጥ ትገልግሎት ሁኔ

የተመለከትከውን/ሽውን ወይም የሠማኸውን/ሽውን ብቻ መዝገብ/ቢ

መመሪያ፡- ጣልቃ በመግባት የምርመራውን ሂደት አ ቋርጥ

1. የተጀመረበት ሠዓት (ጊዜ) ---------- 2. የተቋረጠበት ሠዓት(ጊዜ) ----------

3. ንደገና የተጀመረበት ሠዓት (ጊዜ) ---------- 4. የተቋረጠበት ሠዓት(ጊዜ) ----------

5. ንደገና የተጀመረበት ሠዓት (ጊዜ) ---------- 6. ምልከ ው የተቋረጠበት ሁለተኛው ጊዜ (ሠዓት)

ተ.ቁ	ጥያቄዎች	ስማሬጭ መልስ	ዝሰል
020	ባለሙያው በሽተኛው ትክክለኛ የላብራቶሪ ምርመራ መለያ ቅጽ መያዙን አረጋግጧል	1. አሥ 2. አይደለም	
021	ባለሙያው በሽተኛውን በሚገባ ስለአጠቃላይ የአክ ምርመራ ይኖሩ ል?	1. አሥ 2. አይደለም	
022	የላብራቶሪ ባለሙያው አክ ናሙና ንዴት ይዞ መምጣት ንዳለበት በሚገባ አስረድቶ ል? ሀ. በበሽተኛው ላይ የራስ መተማመንን በመፍጠር ለናሙናው ምርመራ አስፈላጊነት ገልያለ ል ለ. ንዴት አድርጎ ማሣልና ንየልበት ገልያለ ል ሐ. በሽተኛ የአክ ናሙናውን ከማዘጋጀቱ በፊት የወሰደው የተመ ነገር ካለ አስቀድሞ አፋን በውሃ መጉመጥመጥ ንዳለበት ገልያለ ል	1. አሥ 2. አይደለም	
023	የላብራቶሪ ባለሙያው ትክክለኛ የሆነ የአክ ናሙና ማስቀመጫ ቃ ሰጥቶ ል ?/ ከሚከተሉት ጥያቄዎች አረጋግጥ/		
	ሀ. በውስጡ ናሙናሙን ከውጭ በሚገባ የሚያሣይ	1. አሥ 2. አይደለም	
	ለ. ጥብቅና ተስማሚ የሆነ ክዳን አለው	1. አሥ 2. አይደለም	
	ሐ. ከ50-60 ሚሊ ሊትር መጠን ያለው ቃ ነው? /በማየት አረጋግጥ/	1. አሥ 2. አይደለም	

024	የላብራቶሪ ባለሙያው በሚቀጥለው ቀን ይዞ ስለሚሰጠው ሁለት የተለያየ ናሙናዎች ለበሽተኛው ገልያለ ል ?	1. አዎ 2. አይደለም	
025	የላብራቶሪ ባለሙያው የመጀመሪያውን አክ ናሙና ንደተቀበለ በሚቀጥለው ቀን ይዟቸው ለሚመጣው ናሙናዎች መያዣ ሁለት የተለያዩ ቃዎች በሚገባ ገልፃ ለበሽተኛው ሰጥቶ ል ?	1. አዎ 2. አይደለም	
026	የላብራቶሪ ባለሙያ የናሙና ማያዣ ቃ በተለያዩ ነገሮች ሊበከል ስለመቻሉ በማሰብ አስፈላጊውን ምልከ አድርጓል ?	1. አዎ 2. አይደለም	
027	የላብራቶሪ ባለሙያ ፀረ ተህዋስያን ፈሳሽ ውስጥ በተነከረ ሶፍት ለስላሣ ወረቀት በመጠቀም የናሙና መያዣውን በጥንቃቄ አጽድቋል	1. አዎ 2. አይደለም	
028	በሽተኛው በቂ የአክ ናሙና ለማመንጨት/ለማምጣት አይችልም ? አይደለም ከሆነ ወደ ጥያቄ ቁጥር 033	1. አዎ 2. አይደለም	
029	የላብራቶሪ ባለሙያው ርምጃ ለመውሰድ ይሞክራል /የሚከተለውን ተመልከት/		
	ሀ. በሽተኛውን አየር በጥልቀት ወደ ውስጥ ንዳስገባና ንዲያስወጣ በተደጋጋሚ ጠይቋል ?	1. አዎ 2. አይደለም	
	ለ. በሽተኛው በጣም ያል መመ ከሆነ ቀላል የአካል ንቅስቃሴ ንዲያደርግ ለምሣሌ በጥቂት ደቂቃዎች ሮጥሮጥ ንዲል ወይም ቁጭ ብድግ በፍጥነት ንዲል አበረ ታል ?	1.አዎ 2. አይደለም	
	ሐ. በሽተኛው ሕፃን ከሆነ በጀርባው ጋለል ብሎ በ400 መጠነ ንዲተኛ በማድረግ ንዲያስል ማድረግ ይቻላል ?	1. አዎ 2. አይደለም	
	መ. በሽተኛው በጀርባው ንዲተኛ በማድረግ ደረቱን በመካከለኛው ጣት በስሱ መ መ ማድረግ	1.አዎ 2. አይደለም	
030	የላብራቶሪ ባለሙያው በቂ የአክ ናሙና /3-5 ሚሊትር/ ተቀብሏል?	1.አዎ 2. አይደለም	
031	የአክ ናሙና የጥራት ደረጃው የተጠበቀ ነው ? ከ ች በተዘረዘሩት መጠይቅ መሠረት ምልከ አድርግ	1.አዎ 2. አይደለም	
	ሀ. ወፍራምና የተዝለገለገ	1. አዎ 2. አይደለም	
	ለ. ትንሽ /መጠነኛ/ ደም ያለው አክ	1. አዎ 2. አይደለም	

	ሐ. በጣም ብዙ ደም በውስጡ ያለው አክ	1አዎ 2. አይደለም	
	መ. ምራቅ ብቻ ያለው አክ ናሙና	1.አዎ 2. አይደለም	
032	የላብራቶሪ ባለሙያው የናሙና መያዣውን አክ በሚገባ ከዘጋ በኋላ ጅን በውና በሣሙና ጥቧል	1አዎ 2. አይደለም	
033	የላብራቶሪ ባለሙያው ያንዳንዷን የአክ ናሙና ከአክ ናሙና ማዘዣ ወረቀት ላይ በሚገባ መዝግቧል	1.አዎ 2. አይደለም	
034	የላብራቶሪ ባለሙያው የላብራቶሪ ምዝገባ ቁጥርንና የአክ የናሙና መለያ ቁጥር በአክ ናሙና መቀበያ ቃና ክዳን ላይ በማርከር መዝግቧል	1.አዎ 2. አይደለም	
035	የላብራቶሪ ባለሙያ አዲስ የመመርመርን ስላይድ ከስላይድ ማስቀመጫ በማውጣት ተጠቅሟል	1አዎ 2. አይደለም	
036	የላብራቶሪ ባለሙያ የላብራቶሪ ምዝገባ ቁጥርና የአክ ናሙና መለያ ቁጥር በአክ መቀበያ ቃና በስላይድ ላይ አንድ አይነት መሆኑን ከምርመራ ሂደት በፊት አረጋግጧልን	1. አዎ 2. አይደለም	
037	የላብራቶሪ ባለሙያ ከ ንጨት የተሠራ ማደባለቂያ በአክ ምርመራ ተጠቅሟል	1. አዎ 2. አይደለም	
038	የላብራቶሪ ባለሙያው ለሁለት ኩል ቦ የተከፈሉ ከ ንጨት የተሠራ ማደባለቂያ ጫፍ በመጠቀም ወፍራም ቢጫና ዝልግልግ ከሆነ የአክ ናሙና ለይቶ በብዛት መውሰድ ከላይ ወደ ች ጠንከር አድርጎ በመጫን አማስሏል ?	1. አዎ 2. አይደለም	
039	የላብራቶሪ ባለሙያ ለምርመራ የሚውለውን የአክ ናሙና በ ንቁላል ቅርጽ አይነት 3ሴ.ሚ ርዝመትና 2 ሴ.ሜ ወርድ መጠን ንዲኖረው በማድረግ በስላይዱ መካከለኛ ክፍል ላይ አዘጋጅቷል ?	1. አዎ 2. አይደለም	
040	የላብራቶሪ ባለመያው ለምርመራ የሚውለውን በስላይድ ላይ የተቀመጠና የላብራቶሪ ባለሙያ ለምርመራ የሚውለውን /የአክ ናሙና አስተማማኝ በሆነው የአምፖል ብርሃን ዙሪያ ርቀት ወይም ከ ሣት ላንቃ 15ሴ.ሚ ዙሪያ ርቀት ላይ በማድረግ በስላይድ መሀከለኛው ክፍል ላይ አዘጋጅቷል ?	1. አዎ 2. አይደለም	
041	የላብራቶሪ ባለሙያው በዕያንዳንዱ የአክ ናሙና ምርመራ ወቅት አዲስ የማማሰያ ንጨት ተጠቅሟል		

042	የላብራቶሪ ባለሙያው ትልቅ መጠን ያለው የአክ ናሙና ወስዶ በምርመራ ይጠቀማል	1. አዎ 2. አይደለም	
043	የላብራቶሪ ባለሙያው የተዘጋጀውን ስላይድ ከ15-30 ደቂቃ ያህል በአየር ንዲደርቅ ያደርጋል ?	1.አዎ 2. አይደለም	
044	የላብራቶሪ ባለሙያው የተዘጋጀውን በስላይድ የፀሐይ ብርሃን ወይም ከፍተኛ የ ሣት ሙቀት በመጠቀም ንዲደርቅ ያደርጋል	1.አዎ 2. አይደለም	
045	የላብራቶሪ ባለሙያው የተዘጋጀውን ስላይድ በቦንሰን በርነር የ ሣት ላንቃ አናት ወይም ሚ ይሌት ስፕሪት ሣት ላንቃ ላይ ሦስት ጊዜ ንዲያልፍ አድርጓል ?	1.አዎ 2. አይደለም	
046	የላብራቶሪ ባሙያው ለምርመራ የተዘጋጀውን የአክ ናሙና ስላይድ የተቆረጠ ከ4 ስከ 5 ሴ.ሚ በሚደረስ ርቀት ጽሑፍ ባለው ቁራጭ ወረቀት ላይ ለማየት ሞክሯል ?	1.አዎ 2. አይደለም	
047	አዎን ከሆነ /የጽሁፎችን የንባብ ደረጃ ምን ንደሚመስል /በስላይ ውስጥ የጽሁፎችን የመነበብ ደረጃ አረጋግጥና አክብብ?	1. ፊደሎቹ ሙሉ በሙሉ መነበብ አይችሉም ወይም በጣም ወፍራም ከሆነ ነው በጣም ወፍራም ከሆና ናሙና ስለሆነ 2. ፊደሎቹ በጣም በቀላሉ መነበብ ይችላሉ በጣም ስስ ናሙና ከሆነ 3. ፊደሎቹ በከፊል የሚነበቡ ከሆነ በጣም ስስ ወይም ወፍራም ናሙና ካልሆነ	
048	የላብራቶሪ ባለሙያው ተመሣሣይ ስላይዶችን በአንድ የስላይድ ማስቀመጫ አጠቃላይ አግባብ ባለው አቀማመጥ ያስቀምጣቸዋል ?	1. አዎ 2. አይደለም	
049	የላብራቶሪ ባለሙያው 1 ፐርሰንት ካርቦል ፉሽን ኬሚካልን በቅድሚያ ንዲያጣራ ያደርጋል?	1. አዎ 2. አይደለም	
050	የላብራቶሪ ባለሙያው ለምርመራ የተዘጋጀውን በስላይ	1. አዎ 2. አይደለም	

	በካርቦል ፋሽን ኬሚካል ሙሉ በሙሉ ያርመዋል ?		
051	የላብራቶሪ ባለሙያው ያንዳንዱ ስላይ በቧንቧ ውሃ የፈላ ውሃ ስኪ ነጣ ድረስ አጥቦ ል ?	1. አዎ 2. አይደለም	
052	የላብራቶሪ ባለሙያው ስላይድን 3 % አሲድ አልኮል ለሦስት ደቂቃ ያህል በማጠብ ቀለሙ ንዲለቅ አድርጓል	1. አዎ 2. አይደለም	
053	የላብራቶሪ ባለሙያው ስላይዱን በ0.1 % ሚቲሊን ብሉ ኬሚካል አጥቦ ል ?	1. አዎ 2. አይደለም	
054	የላብራቶሪ ባለሙያው ለምርመራ የተዘጋጀውን ስላይድ በስላይድ ማስቀመጫ ጋለል አድርገ በማስቀመጥ አየር ንዲደርቅ ያደርጋል ?	1. አዎ 2. አይደለም	
055	የላብራቶሪ ባለሙያው በኬሜካል ንዲ ጠብ የተደገውን ለምርመራ የተዘጋጀውን ስላይድ በማይክሮስኮፕ በመመልከት የተከተለውን የማዟዟሪያ ዘዴ ተመልከትና አክብብ ?	1.አግድሞሽ የማንበቢያ ስልት 2.ዝግዛግ ወይም ወለምዘለም 3. ርግጠኛ አይደለሁም	
056	የላብራቶሪ ባለሙያው የናሙና ዛሙና ስላይዱን ከአነባበ በኋላ ትክክለኛ የሪፖርት ማድረጊያ ዘዴን በመከተል ሪፖርት ያደርጋል	1. አዎ 2. አይደለም	
057	የላብራቶሪ ባለሙያው ውጤቱን በላብራቶሪ ውጤት መመዝገቢያ መዝገብ ና በላብራቶሪ ምርመራ ማዘዣ ቅጽ መዝግቧል ?	1. አዎ 2. አይደለም	
058	ቀይ ስክርቢቶ በመጠቀም ፖዘቲቭ ውጤት በላብራቶሪ መመዝገቢያ መዝገብ ላይ ያሰፍራል ?	1. አዎ 2. አይደለም	
059	የላብራቶሪ ባለሙያው ምርመራውን ካጠናቀቀ በኋላ ሁሉንም ስላይዶች በስላይድ ማስቀመጫ ሣጥን ውስጥ በነበራቸው የምዝገባ ቅደም ተከተል መሠረት ያስቀምጣል ?	1. አዎ 2. አይደለም	

ጥያቄአችንን ዚህ ላይ ጨርሰናል። ጊዜዎን ሰውተው ለጥያቄአችን መልስ በመስጠት ስለተባበሩን ከልብ ናመሰግናለን።

ክፍል ፮፡- በተመሳሳሽ በሽተኞች ክፍል የሚሠረ የጤና ባለሙያዎች ችሎ መዳሰስ

ዞን : ---------- ወረዳ :----------
ቀን: ---------/----------/---------- የተቋመ መለያ: ----------
የተቋመ አይነት : 1. ጤና ጣቢያ 2. አዳጊ ጤና ጣቢያ መረጃውን የሚሰበስበው ባለሙያ መለያ ----------

ጥልቀት ያለው ቃለመጠየቅ

ተ.ቁ	ጥያቄዎች	አማራጭ መልስ	ዝለል
002	**የተጠያቂው ፆ**	**1. ወንድ 2. ሴት**	
003	**የመላሽ የትምህርት ደረጃ**	**1. ሀኪም** **2. ጤና መኮነን** **3. ዲግሪ ያለው የህክምና ነርስ** **4. ዲፕሎማ ያለው የሕክምና ነርስ** **5. የህክምና ነርስ** **6. ሌላ ካለ ይገለጽ ----------**	
004	**ባለፉት 4 ዓመት ጊዜ ውስጥ**	**1. አዎን** **2. አይደለም ከሆነ ጥያቄ ቁጥር 005**	
005	**ከተዘረዘሩት ውስጥ የሚስማማውን አክብብ/ቢ**	**1. በሣንባ ነቀርሳ** **2. ሣንባ ነቀርሳና ስጋ ደዌ** **3. በሣንባ ነቀርሣና ኤች አይ ቪ** **4. ሌላ ካለ ይገለጽ ----------**	

በሣንባ ነቀርሣ /ቲቢ/በሽ ዙሪያ ያለውን የጤና ባለሞያዎችን የጤና ባለሙያዎችን ውቀትና ችሎ ለማወቅ የሚያስችል ጥልቅ ቃለመጠየቅ ማድረጊያ መመሪያ

ጭብጥ 1 የቲቢ በሽታን አጠቃላይ ሁኔታ ይመለከታል

ሀ.1 የቲቢ በሽታ ምንድን ነው?

ሀ.2 የበሽታው አምጭ ህዋስያን ምን በመበል ይታወቃል ?

ሀ.3 የመተላለፊያው መንገዶች ምን ምን ናቸው ?

ሀ.4 የበሽተው ምልክትና ስሜት ምን ምን ነው ?

ሀ.5 የቲቢ በሽታ አይነቶች ምንምን ናቸው ?

ሀ.6 የበሽታውን ስርጭት ሊያባብሱ የሚችሉ ነገሮች ምን ምን ናቸው ?

ሀ.7 ቲቢ በሽታ በብዛት የሚያጠቃው ማንን ነው ?

ሀ.8 የቲቢ በሽተኛ ሲባል ምን ማለት ነው ?፣ የቲቢ በሽታ ተጠርጣሪ ሲባልስ ምን ማለት ነው ?

ሀ.9 እንደ ብሔራዊ የኢትዮጵያ የቲቢ እና የስጋ ደዌ በሽታ መከላከያና መቆጣጠሪያ መመሪያ መጽሐፍ እንደተገለፀው የቲቢ በሽተኞች ወይም ታካሚዎች አይነት ለይተው ይግለፁ ?

ጭብጥ 2 ስለ ቲቢ በሽታ መኖር ከፍተኛ ጥርጣሬ ስለማድረግ

ለ .1 ቲቢበሽታ ተጠቂ ለማወቅ በቅድሚያ ከበሽተኛው ታሪክና ሌሎች ግኝቶች በመነሳት እንዲት ጥርጣሬ ማድረግ ይችላሉ ?

ጭብጥ 3 በሽው መኖሩን ለይቶ ስለማወቅ

ሐ.1 የበሽታው ምልክትና ስሜት መሠረት በማድረግ የቲቢ በሽታ መኖሩን እንዴት ማረጋገጥ ይታላል?

ሐ.2 የላብራቶሪ ምርመራ ውጤት መሠረት በማድረግ የቲቢ በሽታ መኖሩን እንዴት ማረጋገጥ ይታላል?

ሐ.3 የራጅ ወይም ኤክስ ሬይ ውጤት መሠረት በማድረግ የቲቢ በሽታ መኖሩን እንዴት ማረጋገጥ ይታላል?

ጭብጥ 4 የቲቢ በሽታ ሕክምና አሰጣጥ በተመለከተ

መ.1 በኢትዮጵያ ጤና ጥበቃ ሚኒስቴር የቲቢና የስጋ ደዌ በሽታዎች መከላከያና መቆጣጠሪያ ማንዋል መሰረት የቲቢ በሽታ የሕክምና የጊዜ ሠሌዳ (ዘመን) ይግለፁ?

መ.2 ዋና ዋና የቲቢ በሽታ መድሐኒቶች ምን ምን ናቸው ?

መ.3 አንድን በሽተኛ እንደ ሁኔታው በተለያዩ የሕክምና የጊዜ ሠሌዳ (ሪጅመን) ውስጥ እንዳለ በማድረግ በምሳሌ አስረዳ ?

ጭብጥ 5 የቲቢ በሽታ መከላከልን ይመለከታል

ሠ.1 የቲቢ በሽታን እንዴት መከላከል ይቻላል?

ሠ.2 የቲቢ በሽታ ህመምና ምልክት ሳይታይ አንድን ሠው መለከፍን እንዴት ማወቅ ይቻላል?

ጭብጥ 6 ስለ ቲቢ በሽታ ልየታ በተመለከተ

ረ.1 አመታዊ የቲቢ በሽታ ልየታ ቁጥር በመቶኛ ሲለካ አለማቀፍ የጤና ድርጅት ካስቀመጠው አመታዊ ስሌት (ሰባ በመቶ 70%) አንፃር አሁን ያለው (26%) በጣም አነስተኛ የሁነው ለምንድን ነው ?

ረ.2 የቲቢ በሽታ ልየታ በአሐዝ አነስተኛ መሆን በማህበረሰቡ ጤና ላይ ሊያስከትል የሚችለው አደጋ ምን ሊሆን ይችላል ?

ጭብጥ 7 የቲቢ በሽታ ከማህበረሰቡ ጤና ጋር በተመለከተ

ሰ.1 በኢትዩጵያ እንዲሁም በአማራ ክልል የቲቢ በሽታ አሳሳቢ የማህበረሰብ የጤና ችግር ነው ብለው ያስባሉ ?
ሰ.2 እንዴት ወይም ለምን ?

ጭብጥ 8 ያጋጠሙ ችግሮችና የተወሰዱ የመፍትሔ እርምጃዎችን በተመለከተ

ሸ.1 የቲቢ በሽታ ልየታና ከህክምና አሰጣጥ በተመለከተ ያጋጠመዎት መሰናክል ወይም ችግር ካለ ቢገልፁልን ?

ሸ.2 ምን ምን የመፍትሔ እርምጃዎች ተወሰዱ?

ጭብጥ 9 አጠቃላይ አስተያየቶችን በተመለከተ

ቀ.1የቲቢ በሽታ ታካሚዎችን ልየታ ለማሻሻል እንዲቻል እርስዎ ምን አስተያየት አለዎት

ጥያቄአችንን ዚህ ላይ ጨርሰናል። ጊዜዎን ሰውተው ለጥያቄአችን መልስ በመስጠት ስለተባበሩን ከልብ ናመሰግናለን።

ሞዷቀት ያሰው ቃለመጠየቅ

በማንባ ነቀርሣ /ቲቢ/በሽ ዙሪያ ያለውን የጤና ኤክስቴንሽን ሠራተኞች ውቀትና ችሎ ለማወቅ የሚያስችል ጥልቅ ቃለመጠየቅ ማድረጊያ መመሪያ

ጭብጥ 1 የቲቢ በሽታን አጠቃላይ ሁኔታ ይመለከታል

ሀ.1 የቲቢ በሽታ ምንድን ነው?

ሀ.2 የበሽታው አምጭ ህዋስያን ምን በመበል ይታወቃል ?

ሀ.3 የመተላለፊያው መንገዶች ምን ምን ናቸው ?

ሀ.4 የበሽተው ምልክትና ስሜት ምን ምን ነው ?

ሀ.5 የቲቢ በሽታ አይነቶች ምንምን ናቸው ?

ሀ.6 የበሽታውን ስርጭት ሊያባብሱ የሚችሉ ነገሮች ምን ምን ናቸው ?

ሀ.7 ቲቢ በሽታ በብዛት የሚያጠቃው ማንን ነው ?

ሀ.8 የቲቢ በሽተኛ ሲባል ምን ማለት ነው ?፣ የቲቢ በሽታ ተጠርጣሪ ሲባልስ ምን ማለት ነው ?

ሀ.9 እንደ ብሔራዊ የኢትዮጵያ የቲቢ እና የስጋ ደዌ በሽታ መከላከያና መቆጣጠሪያ መመሪያ መጽሐፍ እንደተገለፀው የቲቢ በሽተኞች ወይም ታካሚዎች አይነት ለይተው ይግለፁ ?

ጭብጥ 2 ስለ ቲቢ በሽታ መኖር ከፍተኛ ጥርጣሬ ስለማድረግ

ለ .1 ቲቢበሽታ ተጠቂ ለማወቅ በቅድሚያ ከበሽተኛው ታሪክና ሌሎች ግኝቶች በመነሳት እንዲት ጥርጣሬ ማድረግ ይችላሉ ?

ለ.2 የቲቢ በሽታ ተጠርጣሪ በማህበረሰቡ ውስጥ ሲገኝ እንደ ጤና ኤክስቴንሽን ሰራተኛ /ባለሙያ/ ምን ተግባራትን ታከናውናላተሁ ?

ጭብጥ 3 በሽው መኖሩን ለይቶ ስለማወቅ

ሐ.1 የበሽታው ምልክትና ስሜት መሠረት በማድረግ የቲቢ በሽታ መኖሩን እንዴት ማረጋገጥ ይታላል

ጭብጥ 4 የቲቢ በሽታ ሕክምና አሰጣጥ በተመለከተ

መ.1 የቲቢ በሽታ ህክምና አገልግሎት ትሰጣላችሁ?

መ.2 ለምን ?እንዴት ?

ጭብጥ 5 የቲቢ በሽታ መከላከልን ይመለከታል

ሠ.1 የቲቢ በሽታን እንዴት መከላከል ይቻላል?

ሠ.2 የቲቢ በሽታ ህመምና ምልክት ሳይታይ አንድን ሠው መለከፍን እንዴት ማወቅ ይቻላል?

ሠ.3 የቲቢ በሽታ ተጠርጣሪዎችን በመለየት ረገድ በማህበረሰብ ደረጃ ምን ምን ተግባራት እየተከናወኑ ናቸው?

ጭብጥ 6 ስለ ቲቢ በሽታ ልየታ በተመለከተ

ረ.1 አመታዊ የቲቢ በሽታ ልየታ ቁጥር በመቶኛ ሲለካ አለማቀፍ የጤና ድርጅት ካስቀመጠው አመታዊ ስሌት (ሰባ በመቶ 70%) አንፃር አሁን ያለው (26%) በጣም አነስተኛ የሁነው ለምንድን ነው ?

ረ.2 የቲቢ በሽታ ልየታ በአሐዝ አነስተኛ መሆን በማህበረሰቡ ጤና ላይ ሊያስከትል የሚችለው አደጋ ምን ሊሆን ይችላል ?

ጭብጥ 7 የቲቢ በሽታ ከማህበረሰቡ ጤና ጋር በተመለከተ

ሰ.1 በኢትዮጵያ እንዲሁም በአማራ ክልል የቲቢ በሽታ አሳሳቢ የማህበረሰብ የጤና ችግር ነው ብለው ያስባሉ ?
ሰ.2 እንዴት ወይም ለምን ?

ጭብጥ 8 ያጋጠሙ ችግሮችና የተወሰዱ የመፍትሔ እርምጃዎችን በተመለከተ

ሸ.1 የቲቢ በሽታ ልየታና ከህክምና አሰጣጥ በተመለከተ ያጋጠመዎት መሰናክል ወይም ችግር ካለ ቢገልፁልን ?

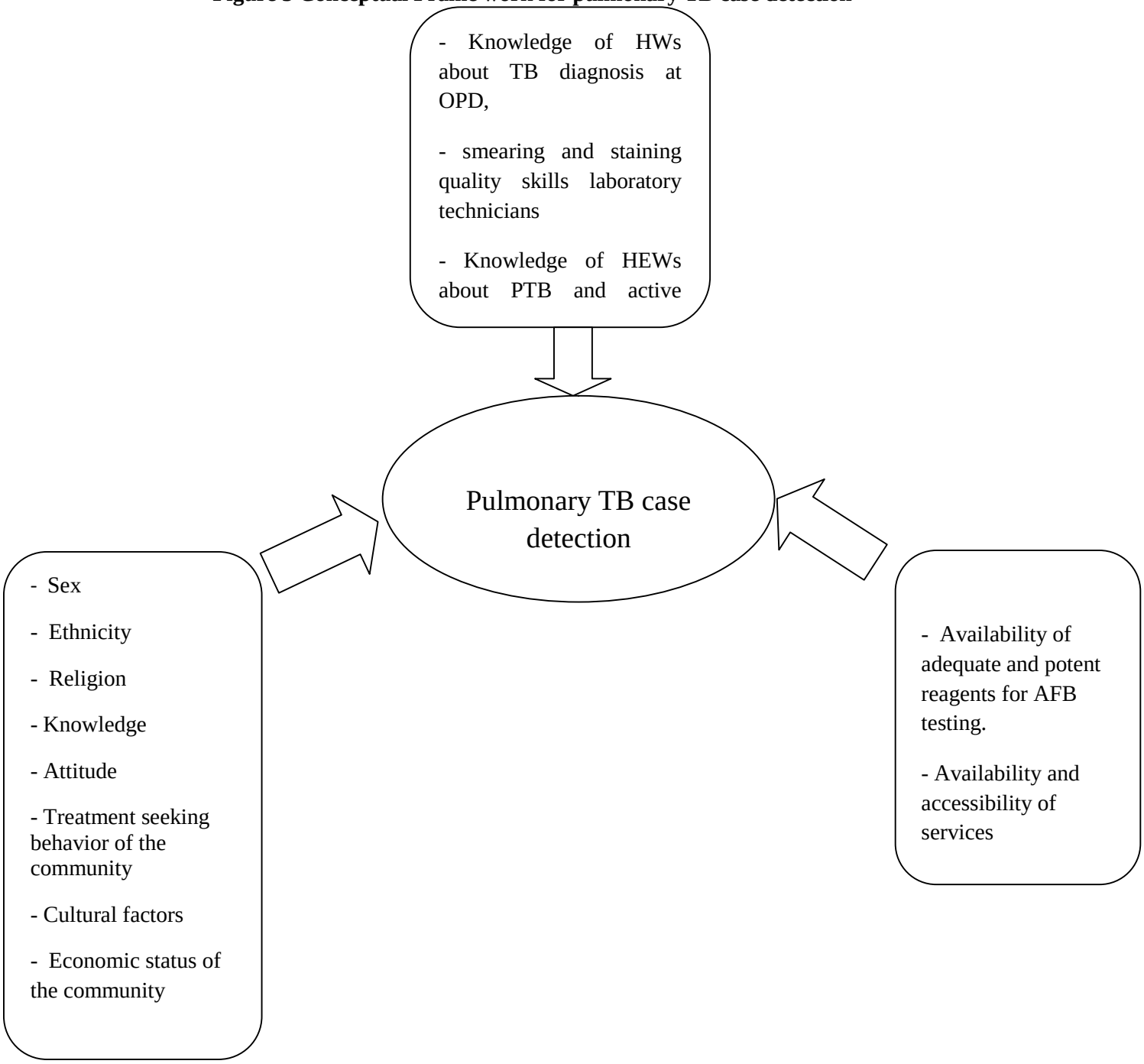
ሸ.2 ምን ምን የመፍትሔ እርምጃዎች ተወሰዱ ?

ጭብጥ 9 አጠቃላይ አስተያየቶችን በተመለከተ

ቀ.1የቲቢ በሽታ ታካሚዎችን ልየታ ለማሻሻል እንዲቻል እርስዎ ምን አስተያየት አለዎት ?

ጥያቄአችንን ዚህ ላይ ጨርሰናል። ጊዜዎን ሰውተው ለጥያቄአችን መልስ በመስጠት ስለተባበሩን ከልብ ናመሰግናለን።

Figure 3 Conceptual Frame work for pulmonary TB case detection



Source: Own

24. Declarations

The thesis, my original work, has not been presented for a degree in this or any other university and that all sources of materials used for the thesis has been duly acknowledged.

Name: Getu Cherinet (BSc.)

Signature: _____

Place: Bahrdar _____

Date of submission: _____

This thesis is submitted with my approval as University advisor.

Name: **Dr. MEAZA DEMISSIE (MD, MPH, PhD)**

Signature: _____